

**VINCENT MULLINS LANDFILL  
TUCSON, ARIZONA**

**AQUIFER PROTECTION PERMIT NO. P-100917**

**2015 ANNUAL REPORT**

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## List of Acronyms

1,1-dichloroethane	1,1 DCA
Alert Levels	ALs
Aquifer Protection Permit	APP
Aquifer Quality Limit	AQL
Aquifer Water Quality Standards	AWQS
Arizona Department of Environmental Quality	ADEQ
Below Ground Surface	bgs
Cis-1,2 dichloroethene	cis-1,2 DCE
City of Tucson Environmental Services	COT-ES
Feet	ft
Feet above mean sea level	ft amsl
Groundwater Protection Levels	GPLs
Last On- First Off	LOFO
Non-detect	ND
Non-Point of Compliance	non-POC
Micrograms per liter	µg/l
Point of Compliance	POC
Quality Assurance/Quality Control	QA/QC
Soil Vapor Extraction	SVE
Tetrachloroethene	PCE
Trichloroethene	TCE
Vincent Mullins Landfill	VML
Volatile Organic Compounds	VOCs
Water Table Elevation	WTE



## 1.0 INTRODUCTION

This report summarizes soil vapor and groundwater monitoring activities and remediation activities at the closed Vincent Mullins Landfill, in accordance with the Arizona Department of Environmental Quality (ADEQ), Solid Waste Unit, Aquifer Protection Permit (APP) No. P-100917 from January of 2015 through December of 2015. Soil vapor and groundwater monitoring and remedial activities are required at the Vincent Mullins Landfill under the APP which expires on August 17, 2034.

The Vincent Mullins Landfill is located on the eastern bank of the Pantano Wash immediately north of Speedway Boulevard in Tucson, Arizona. The location of the Vincent Mullins Landfill is shown on **Figure 1**. The Vincent Mullins Landfill was used for the disposal of municipal solid waste from 1976 through 1987. For this reporting period, the City of Tucson-Environmental Services (COT-ES) monitored twenty-three shallow landfill gas probes, three nested deep soil vapor wells, sixteen groundwater monitoring wells, and two privately owned irrigation wells around the landfill. In addition, a landfill gas flare system operates to control the migration of methane and volatile organic compounds (VOCs) from the waste. The landfill is owned and maintained by the City of Tucson.

## 2.0 SOIL VAPOR AND GROUNDWATER MONITORING

The APP specifies groundwater monitoring for VOCs on a semi-annual basis and groundwater monitoring of inorganic compounds on an annual basis at monitoring wells WR-115A, WR-116A, WR-117A, WR-118A and the point of compliance well WR-453A at the Vincent Mullins Landfill. Semi-annual analysis for VOCs in the groundwater is conducted in March and September and annual analysis for inorganic compounds is conducted in March of each year. In addition to the required groundwater monitoring under the APP, the COT-ES voluntarily monitors groundwater monitoring wells VMW-502A, WR-456A, WR-457A, WR-458A, WR-459A and a private irrigation well located at the El Dorado Country Club on a semi-annual basis. The well at the El Dorado Country Club is designated as well HSL-97. Due to rising regional groundwater levels, the COT-ES also began monitoring El Dorado's former irrigation well HSL-96 in March 2011 and the deep vapor probe at R-126A-290 in October of 2013. The COT-ES also voluntarily monitors groundwater monitoring wells WR-186A, WR-439A and WR-600A on an annual basis in March of each year. Of the voluntarily monitored wells, only those in proximity to the landfill are monitored for inorganic compounds. Deep vapor probe R-126A-290 is in proximity to the landfill, but a groundwater sample was not able to be collected as the probe was inaccessible and was not able to be properly developed and purged. Well construction details for the soil vapor and groundwater monitoring wells are provided on **Table 1**.

The deep-nested soil vapor wells R-103A, R-104A, and R-126A are monitored annually as part of the COT-ES voluntary soil vapor monitoring program. **Table 2** summarizes the required and voluntary monitoring at the Vincent Mullins landfill site for 2015.

**Table 2**

**Summary of Groundwater Monitoring at the Vincent Mullins Landfill for 2015**

<b>Well Name</b>	<b>Monitored in March (VOCs &amp; Inorganics)</b>	<b>Monitored in March (VOCs only)</b>	<b>Monitored in September (VOCs only)</b>
<b>APP Required Wells for Groundwater Monitoring</b>			
WR-115A	•		•
WR-116A	•		•
WR-117A	•		•
WR-118A	•		•
WR-453A (POC)	•		•
<b>Voluntary Groundwater Monitoring (not required by APP)</b>			
<b>Groundwater Samples Collected from Groundwater Monitoring Wells</b>			
VMW-502A		•	•
WR-456A	•		•
WR-457A	•		•
WR-458A		•	•
HSL-96		•	•
HSL-97	•		•
WR-186A		•	
WR-439A		•	
WR-459A		•	•
WR-600A		•	
<b>Groundwater Sample Collected from Deep Vapor Probe</b>			
R-126A-290		•	•
<b>Voluntary Deep Soil Vapor Monitoring (not required by APP)</b>			
R-103A*	•		
R-104A*	•		
R-126A*	•		

*\* Nested Deep Soil Vapor Probes Monitored for soil vapor VOCs only.*

## **2.1 Groundwater Water Level Monitoring**

The depth to groundwater was measured in 16 monitoring wells prior to the collection of groundwater samples in the March and September 2015 sampling events. A summary of the depth to groundwater measurements for this reporting period is provided on **Table 3**. The groundwater contour maps for March and September of 2015 are provided on **Figure 2**. These

maps indicate that the direction of groundwater flow across the Vincent Mullins Landfill is toward the southwest. The average March and September 2015 horizontal gradients were approximately 0.0028 feet per foot (ft/ft) and 0.0067 ft/ft, respectively.

In March of 2015, the water table elevations (WTE) ranged from 2,260.49 to 2,246.23 feet above mean sea level (ft amsl) in the groundwater monitor wells at the VML (**Table 3** and **Figure 2**). In September of 2015, the WTE ranged from 2,280.42 to 2,247.05 ft amsl. Hydrographs provided as **Figure 3** and **Figure 4**, show the groundwater table has been rising in the vicinity of the Vincent Mullins Landfill at an approximate rate of 3.07 feet per year since 2006.

## 2.2 Groundwater Sampling Procedures and Results

The March 2015 groundwater monitoring event was conducted from March 9 through March 12, 2015 and consisted of the collection of groundwater samples from sixteen groundwater wells. The COT-ES also collected a groundwater sample from the deep soil vapor probe at R-126A on March 12, 2015. The September 2015 groundwater monitoring event was conducted from September 21 through September 29, 2015 and consisted of the collection of groundwater samples from twelve groundwater wells and from one deep vapor probe.

Groundwater sampling for APP compliance wells was conducted in accordance with the APP requirements. The wells were sampled in order of increasing PCE concentration (non-detect to highest concentrations) based on concentrations observed during the previous sampling event. Before sample collection, each well was purged a minimum of three well volumes using either a dedicated submersible pump or a decontaminated temporary pump.

A multi-parameter YSI water quality meter equipped with a flow-through cell was used to continuously monitor the following water quality parameters: temperature, pH, specific conductance, dissolved oxygen, and oxidation-reduction potential (ORP). Turbidity was analyzed using a Hanna Instrument.

Groundwater samples were collected after a minimum of three well volumes had been purged from the well and field water quality parameters had stabilized. The stabilization parameters are summarized on the field data sheets provided in **Appendix A**.

Purge water was directed through the COT-ES granular-activated carbon (GAC) vessel if VOCs had been previously detected. No purge water was allowed to enter any jurisdictional waterways of the State of Arizona. All non-dedicated sampling equipment was decontaminated prior to each use.

Immediately following purging, groundwater samples were collected from the spigot provided on the sampling equipment. The flow was reduced to minimize volatilization of VOCs during sampling. Groundwater samples were collected and analyzed for VOCs and inorganic compounds as listed in analyte lists provided in **Appendix A**. Samples were labeled and placed

in laboratory-supplied containers with an internal temperature of  $\pm 2$  degrees Celsius and submitted to the Tucson Water Quality Laboratory (TWQL) for analysis.

Monitoring well HSL-96 and deep vapor probe R-126A-290 were sampled using a disposable single check valve bailer as a grab method. Well purging was not conducted at this well and probe. Vapor samples were collected from each of four nested probes at R-103A and R-104A during the 2015 sampling event. Vapor samples also were collected from the screened intervals at 75 feet, 135 feet and 205 feet below ground surface from vapor probe R-126A. However, due to groundwater intrusion, a groundwater sample was not able to be obtained from the deepest probe at 290 feet below ground surface from vapor probe R-126A. Field parameters, including temperature, pH, specific conductivity, dissolved oxygen, ORP, and turbidity were measured and recorded on the field sheets after sample vials were filled.

Field quality assurance protocols during each sampling event consisted of:

- One trip blank analyzed per day or per cooler.
- Collection of one duplicate sample for every ten samples.
- Collection of one equipment blank for each day of use of a non-dedicated pump.

## **2.2.1 VOC Analytical Groundwater Results**

### **POC Well WR-453A**

The VOC concentrations observed in the POC well WR-453A during the monitoring period were consistent with previous results. The following four VOCs continue to be detected in monitoring well WR-453A in concentrations that exceed APP alert levels listed in the Table 2 of the APP:

- cis 1,2-dichloroethene
- PCE
- TCE
- chloroform

The APP alert levels are set at the laboratory practical quantitation limit, which is also the laboratory detection limit. The concentrations of these parameters, however, do not exceed the respective Aquifer Water Quality Standards (AWQS). As explained in a previous annual report, the potential source of chloroform is a 24-inch reclaim water line leak that was discovered in the Pantano Wash located 185 feet directly upgradient from monitor well WR-453A.

### **APP Wells**

The VOC concentrations observed in the non-POC APP well WR-116A during the March and September 2015 monitoring events were consistent with previous results. The compounds in the groundwater that continue to be detected in WR-116A that exceed APP alert levels but not any

AWQS are: PCE, TCE and 1-1-DCA. There were no VOCs detected above the laboratory method detection limits in the remaining APP listed groundwater monitoring wells: WR-115A, WR-117A, and WR-118A (**Table 4** and **Appendix A**).

## **Voluntary Wells**

The laboratory results for the voluntary wells have identified the same VOCs listed above in monitoring well WR-457A. In March of 2015, the AWQS for PCE (5 µg/l) was exceeded at well WR-457A with a concentration of 5.4 µg/l; however, the PCE concentration in September 2015 in this well was 1.6 µg/l. The PCE concentration of 5.4 µg/l in well WR-457A was the only AWQS exceedance at the Vincent Mullins site during 2015. A comparison of contaminant concentrations in monitoring well WR-457A between March and September of 2015 revealed a general decline in the parameter levels between these two sampling events. The cis-1,2 dichloroethene concentration in well WR-457A in the March 2015 sampling event was 0.6 µg/l and this concentration in the September 2015 sampling event was less than 0.5 µg/l. Similarly, the dichlorodifluoromethane concentration in well WR-457A in the March 2015 sampling event was 3.3 µg/l and this concentration in the September 2015 sampling event was 0.9 µg/l. The trichloroethene concentration in well WR-457A in the March 2015 sampling event was 0.8 µg/l and this concentration in the September 2015 sampling event was less than 0.5 µg/l. Finally, the trichlorodifluoromethane concentration in well WR-457A in the March 2015 sampling event was 1.2 µg/l and this concentration in the September 2015 sampling event was less than 0.5 µg/l. This review shows a general decline in the contaminant concentrations from March of 2015 to September of 2015. The concentrations of PCE in well WR-457A have generally been declining from 2005 to the present time. A PCE concentration of 2.2 µg/l was detected in well WR-457A in the February 2012 sampling event.

PCE was also detected in four voluntary wells R-126A-290, VMW-502A, WR-458A, and WR-459A at concentrations below the 5 µg/l AWQS (**Table 4** and **Figure 6**). Monitoring results were consistent with previous sampling events.

## **2.2.2 Inorganic Analytical Groundwater Results**

### **POC Well**

Inorganic concentrations observed in the POC well WR-453A during the monitoring period were consistent with previous results. None of the inorganic results exceeded any AWQS for the compounds listed in Table 2 in the APP (**Table 4**). There are no associated APP alert levels for inorganic compounds.

## APP Wells

None of the inorganic concentrations measured in APP wells during the monitoring period exceeded any AWQS for the compounds listed in the APP and the concentrations were consistent with previous results except for the recent elevated total lead concentrations in wells WR-115A through WR-118A (**Table 5**). These parameter concentrations and well rehabilitation work efforts were discussed in the 2012 Annual Report submitted to ADEQ<sup>1</sup>. To date, it appears well rehabilitation efforts were successful as lead concentrations have stabilized below the APP limit of 0.05 mg/l as of March 2013 and have remained below the APP limit during 2015. ADEQ concurred with the COT-ES request that the future analysis of lead in wells WR-115A, WR-116A, WR-117A, and WR-118A shall be the dissolved phase (filtered sample) instead of the total lead concentration<sup>2</sup> (unfiltered sample). All groundwater samples were non-detect for dissolved lead indicating the observed lead concentrations were attributable to the presence of solids in the groundwater, which was also evident in the field description of colored purge water and high turbidity values. The point of compliance well WR-453A will continue to be analyzed for total lead concentrations, VOCs and inorganic compounds, as specified in the APP.

## Voluntary Wells

Analytical results for the wells monitored on a voluntary basis for inorganic compounds during 2015 (WR-456A, WR-457A, and HSL-97) were all below the AWQS values listed in the APP. As approved by ADEQ in April 2013<sup>3</sup>, COT-ES is not required to analyze for inorganic compounds in the following voluntary monitoring wells: HSL-96, VMW-502A, WR-186A, WR-439A, WR-458A, WR-459A, and WR-600A. Private irrigation well HSL-97, which is monitored voluntarily, was excluded from inorganic analyses beginning in March 2015. Inorganic analysis will be continued for APP listed wells and voluntary well WR-457A. Should groundwater quality conditions change, the COT-ES will evaluate any recommended modifications to the monitoring program for this list of wells.

### 2.2.3 Quality Assurance/Quality Control for Groundwater Results

Quality assurance/quality control (QA/QC) analyses for the 2015 sampling events included four duplicate sample analyses, one equipment blank analysis and 11 trip blank analyses. Analytical results for QA/QC samples are presented in the laboratory reports in **Appendix A** and duplicate

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<sup>1</sup> COT-ES, 2012 Annual Report, Vincent Mullins Landfill, Tucson, AZ, Aquifer Protection Permit (APP) No. P-100917, March 27, 2013

<sup>2</sup> ADEQ, Vincent Mullins Landfill, Tucson, AZ (closed), 2013 Annual Report, Aquifer Protection Permit No. P-100917, March 27, 2014

<sup>3</sup> ADEQ, RE: Vincent Mullins Landfill, 2012 Annual Monitoring Report Aquifer Protection Permit (APP) No. P-100917, April 12, 2013

comparisons are summarized in tables provided in **Appendix B**. All groundwater samples were analyzed by the TWQL.

There were no analytes detected in any of the trip or equipment blank samples. The laboratory percent recoveries were within laboratory quality assurance objectives for accuracy, except for the data qualifiers listed in the case narratives presented in **Appendix A**. All of the data qualifiers were within acceptable quality and would not affect data results.

The four sample duplicate analyses were compared with the original sample analyses to evaluate the degree of laboratory precision. The quality control evaluation criteria target is 30% relative percent difference (RPD) between duplicate sample results which is an industry standard. If the RPD between original and duplicate samples is greater than 30%, laboratory precision and sampling protocols or sample crew field methodology shall be evaluated. The RPD between the sample and its duplicate for all detected analytes were less than 30%, except for total lead (155.2%) and selenium (60.6%) concentrations at well WR-453A collected in March 2015. The discrepancy between these two samples is likely attributed to suspended solids present in the samples.

## 2.3 Soil Vapor Monitoring Protocol and Results

The COT-ES voluntarily monitors VOCs in soil vapor to assess vadose zone conditions at the Vincent Mullins Landfill site. There are no regulatory standards for this data. Deep nested soil vapor probes were installed to measure possible impacts to groundwater from vapor phase VOCs potentially migrating from the waste. The deep nested soil vapor wells R-103A, R-104A, and R-126A were monitored for VOCs in March of 2015. Due to the rising groundwater table, vapor samples could not be obtained from the deepest probe at R-126A (290 feet) as water was detected above the top of the screen.

Prior to sampling, each probe was purged of three casing volumes of air using a vacuum pump. Landfill gas concentrations were measured using a Landtec GEM 2000 Gas Analyzer and Extraction Monitor for the initial and final readings for methane, carbon dioxide, and oxygen. **Appendix C** contains field sampling forms and **Tables 6** through **8** provide a field parameter summary of final measurements for each probe. Soil vapor samples were analyzed by Airtech Environmental Laboratories for VOC analysis by EPA Method Toxic Organics-15 (TO-15). **Appendix C** contains the laboratory reports and **Tables 9** through **11** provide a summary of select VOCs.

### 2.3.1 Soil Vapor Results

Detected VOC soil vapor concentrations are summarized on **Tables 9** through **11**, PCE concentrations are charted on **Figures 7** through **9** and TCE concentrations are charted on **Figure 10**. The maximum PCE and TCE concentrations occurred in the sample collected from 135 feet below ground surface (ft bgs) in probe R-126A at 4.98 µg/l and 1.1 µg/l, respectively. The



concentrations are low in comparison to the estimated Groundwater Protection Levels (GPLs) for the Vincent Mullins Landfill, as established in 2008 by Hargis & Associates<sup>4</sup>, of 25 µg/l for PCE and 10 µg/l for TCE.

**Table 12** provides a comparison of the maximum detected contaminant concentrations observed in the two 2015 sampling events to the Vincent Mullins Landfill GPLs. The current PCE and TCE soil vapor concentrations are below the estimated GPLs.

**Table 12**

**Comparison of 2015 Maximum Contaminant Concentrations to Vincent Mullins  
Groundwater Protection Levels**

<b>Compound</b>	<b>2015 Maximum Detected Concentrations (µg/l)</b>	<b>Vincent Mullins Landfill GPLs (µg/l)</b>
PCE	4.98	25
TCE	1.1	10
Vinyl chloride	Non-detect	302
cis-1,2 DCE	0.08	114

VML soil vapor concentrations have been below GPLs since 2007 (**Figure 7** through **Figure 10**). Soil vapor VOC concentrations below GPLs are protective of groundwater quality.

### **3.0 STATUS OF REMEDIATION ACTIVITIES**

An important element of the approved Corrective Action Plan at the Vincent Mullins Landfill was the expanded methane gas extraction system constructed in 2004. The location of the gas extraction system wells, lateral and header pipes and the flare compound are shown on **Figure 11**. The expanded methane gas extraction system has been in operation since January of 2005. Operation of the methane gas extraction system has been effective in remediating the VOC vapor concentrations to concentrations less than the estimated GPLs for soil vapor, as shown on **Figures 7** through **10**. All vapor probes have been below soil vapor GPLs since June of 2007, indicating that the expanded landfill gas extraction system is controlling potential VOC sources within the vicinity of VML. Quarterly landfill gas monitoring was performed consistent with

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<sup>4</sup> EEC and Hargis + Associates, Inc. Soil Vapor Assessment at Los Reales, Prudence, Vincent Mullins, Irvington, Cottonwood, and Ryan Landfills, April 10, 2008



APP requirements. Methane was not detected in any of the perimeter methane gas probes throughout the 2015 reporting period. A copy of the quarterly inspection sheets completed by the COT-ES for these monitoring events is provided in **Appendix D**.

## **4.0 SITE INSPECTIONS**

### **4.1 Annual Site Inspections**

Site inspections of the Vincent Mullins Landfill are required on a quarterly basis under a condition specified in the APP. During 2015, site inspections were conducted by Engineering and Environmental Consultants, Inc. (EEC) from Tucson, Arizona in August and November. There were no site inspections completed in the first two quarters of 2015. The inspection reports are enclosed in **Appendix E**.

During the inspections, significant erosion was observed around the channel outfall into the northwest retention basin. The outfall will be reconstructed as part of the Sabino Canyon Road Extension Project and is scheduled for construction in fiscal year 2016. Settlement cracks on the landfill final cover layer were also observed during the inspections. Maintenance of these areas of the landfill has been scheduled for 2016.

### **4.2 Weather Event Site Inspections**

There were four weather event site inspections conducted by the COT-ES in 2015, as required in APP No. 100917. Information concerning the weather event site inspections is provided below:

<b>Date of Weather Inspection</b>	<b>Description of Weather Event</b>	<b>Observed Discrepancy</b>	<b>Correction Action Taken</b>
February 2, 2015	1.30 inches of rain	None	None
February 13, 2015	Wind Speed = 28 mph	None	None
March 6, 2015	Wind Speed = 25 mph	None	None
March 9, 2015	Wind Speed=25 mph	None	None

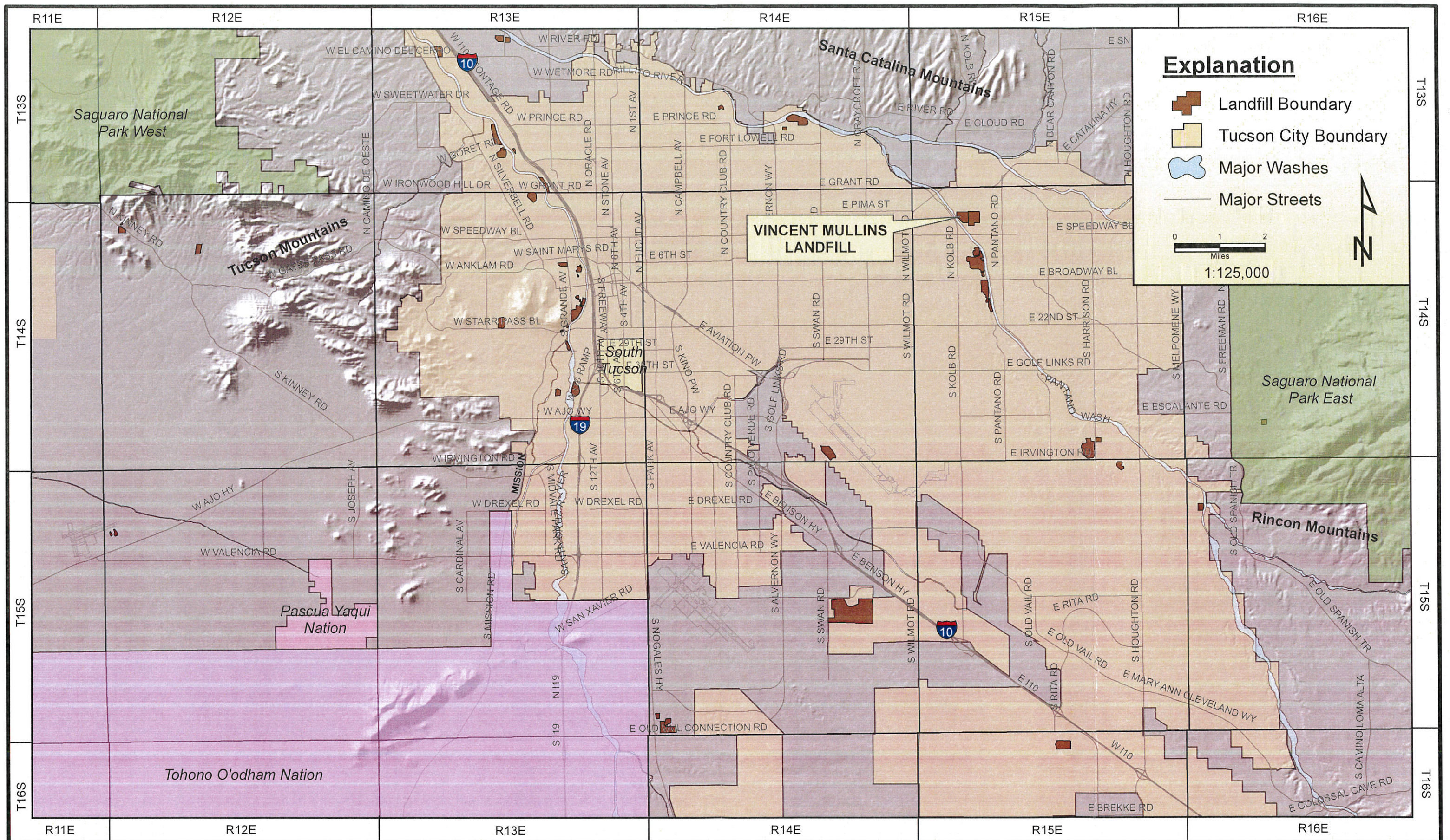
The weather event inspections conducted during the second half of 2015 are included in the Quarterly Site Inspection Reports provided in **Appendix E**.

## 5.0 CONCLUSIONS

- All conditions specified in the APP have been complied with in 2015, with the exception of the first two quarterly site inspections.
- The following four VOCs continue to be detected in POC monitoring well WR-453A in concentrations that exceed APP alert levels listed in **Table 2** of the APP: cis 1,2-dichloroethene, PCE, TCE, and chloroform. The concentrations of these parameters, however, do not exceed the respective aquifer water quality standards (AWQS).
- The VOC and inorganic groundwater monitoring results for POC well WR-453A were consistent with previous monitoring events.
- Two of the five APP listed wells continue to exceed APP groundwater alert levels but do not exceed any AWQSs. The compounds that exceeded the alert levels are cis 1,2-DCE, PCE, TCE, and chloroform.
- Four of the eleven voluntary wells exceed APP groundwater alert levels for the following compounds: 1,1-DCA, cis 1,2-DCE, PCE, and TCE. The only AWQS exceedance during the monitoring period was in voluntary monitor well WR-457A. The PCE concentration observed during the March 2015 sampling event in well WR-457A was 5.4 µg/l and the concentration observed in September 2015 was 1.6 µg/l. A review of the 2015 groundwater analytical results shows a general decline in the contaminant concentrations from March of 2015 to September of 2015. The concentrations of PCE in well WR-457A have generally been declining from 2005 to the present time.
- All inorganic analyte concentrations meet APP requirements.
- Soil vapor samples have VOCs below their respective estimated soil vapor GPLs since 2007.
- Operation of the soil vapor extraction system has been effective in lowering concentrations of VOCs in the soil vapor.

## FIGURES







Explanation

- Active Private Production Well
- Groundwater Monitor Well
- Soil Vapor Monitor Well
- Tucson Water Potable Water Wells

Sept 2015 Water Table Elevation Contours

- Approx. Water Table Elevation Contour
- Inferred Water Table Elevation

March 2015 Water Table Elevation Contours

- Approx. Water Table Elevation Contour
- Inferred Water Table Elevation
- General Groundwater Flow Direction
- Landfill Boundary

0 500 1,000 Feet



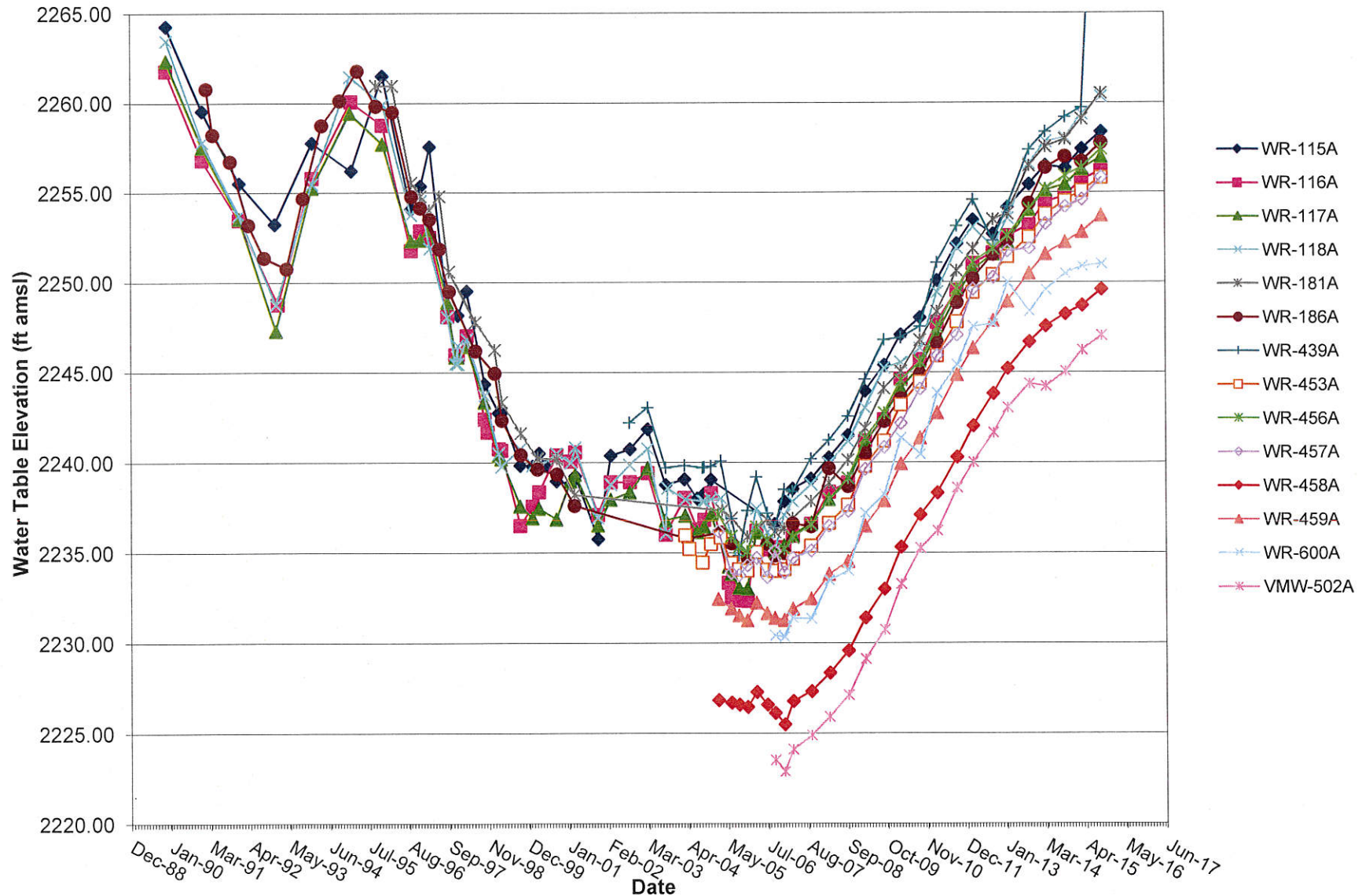
Well ID	Mar. 6, 2015 WTE (ft amsl)	Sept. 16, 2015 WTE (ft amsl)
WR-115A	2257.41	2258.37
WR-116A	2255.71	2256.20
WR-117A	2256.29	2256.98
WR-118A	2259.35	2260.32
WR-147A	2260.49	2260.99
WR-148A	2256.79	2258.13
WR-181A	2259.07	2260.51
WR-186A	2256.71	2257.76
WR-439A	2259.72	2280.42
WR-453A	2255.10	2255.82
WR-456A	2256.39	2257.40
WR-457A	2254.60	2255.83
WR-458A	2248.71	2249.60
WR-459A	2252.80	2253.72
WR-600A	2250.88	2251.00
VMM-502A	2246.23	2247.05

Orthophoto dated 2015.

Figure 2  
Groundwater Contour and Flow Direction Map  
Vincent Mullins Landfill

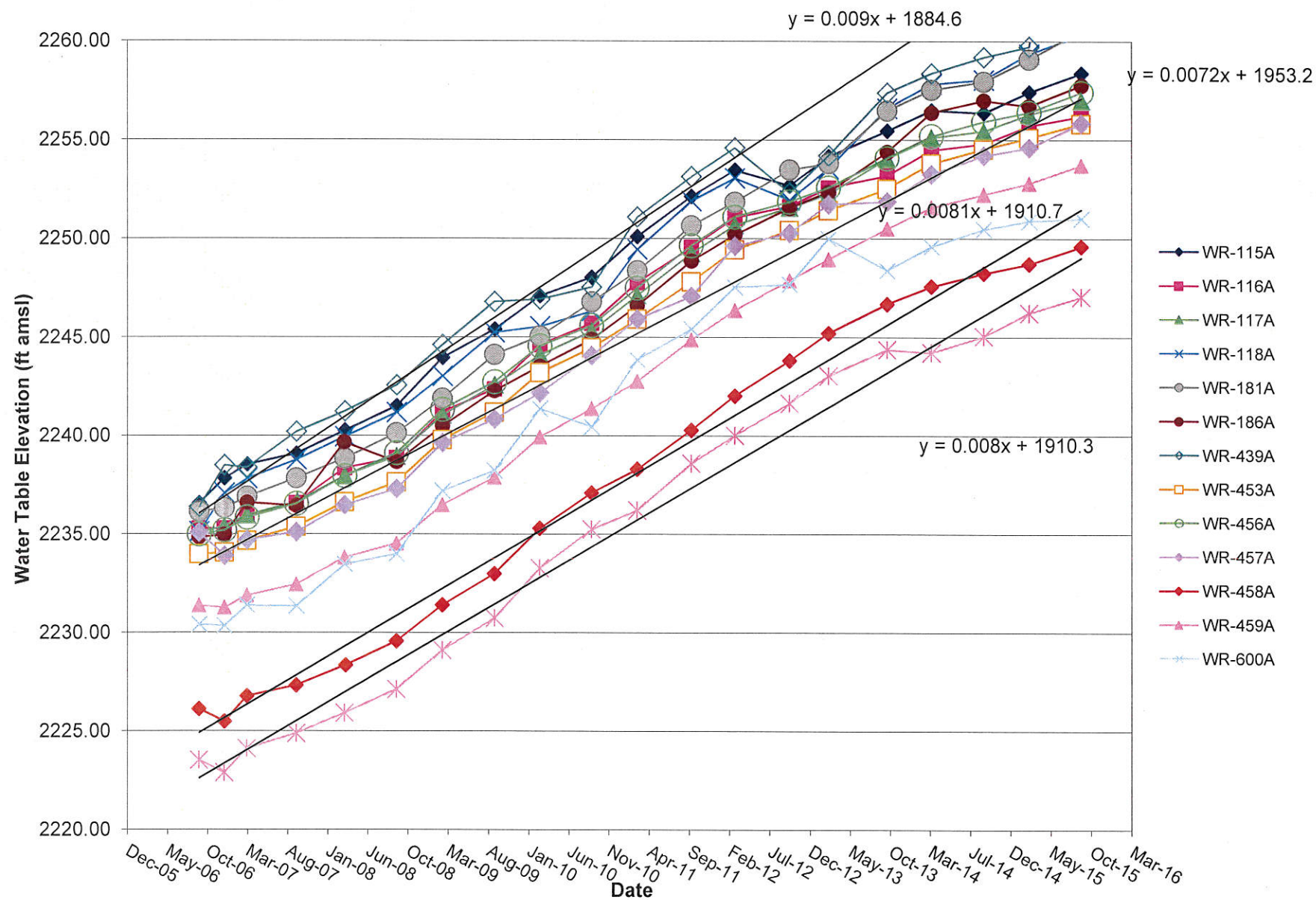


**Figure 3**  
Groundwater Monitor Wells Hydrographs - 1988 to Present  
Vincent Mullins Landfill

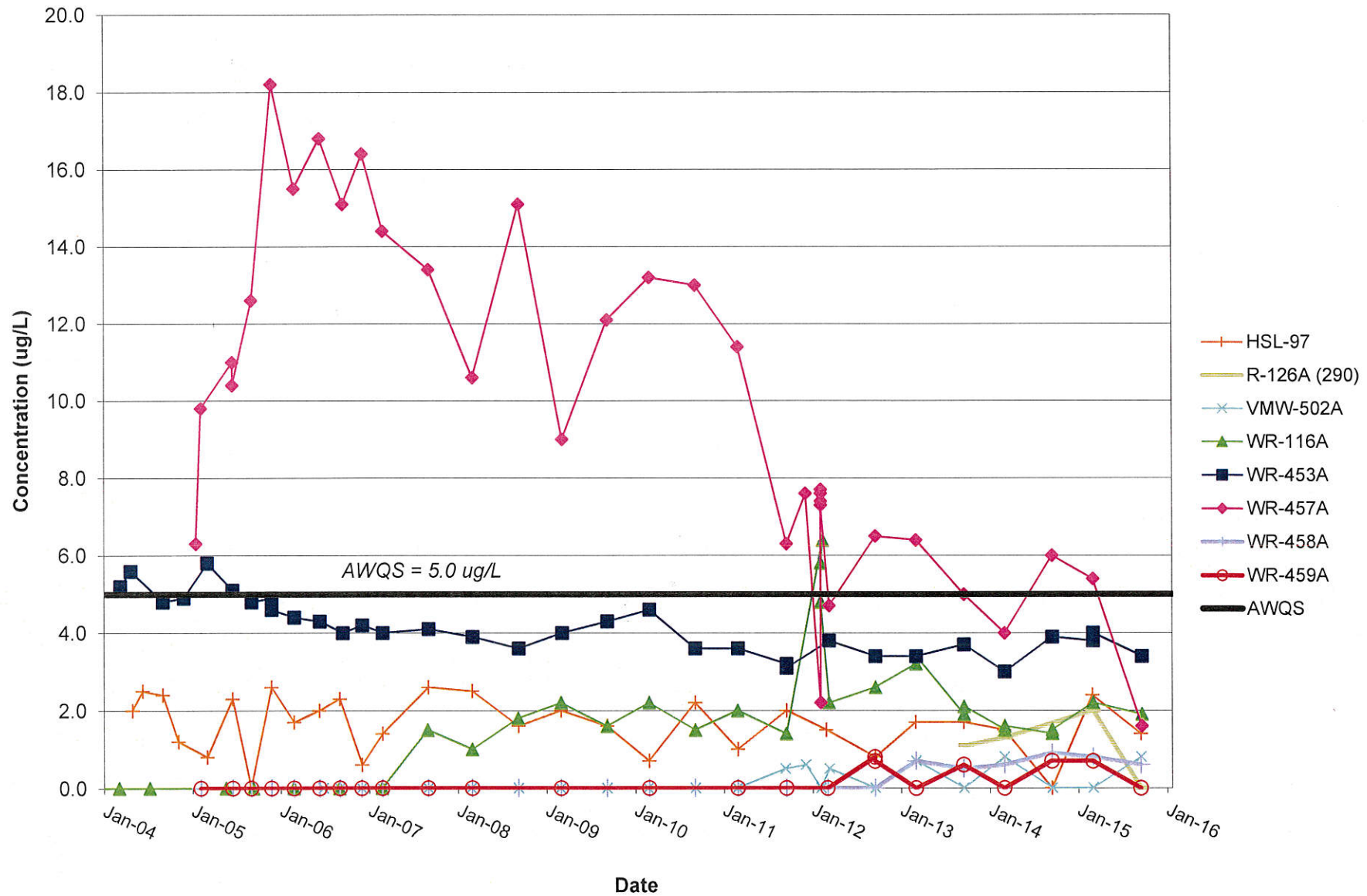


Note: See Figure 4 for a detail of recent water levels (July 2009 to Present).

**Figure 4**  
Groundwater Monitor Wells Hydrographs - July 2009 to Present  
Vincent Mullins Landfill

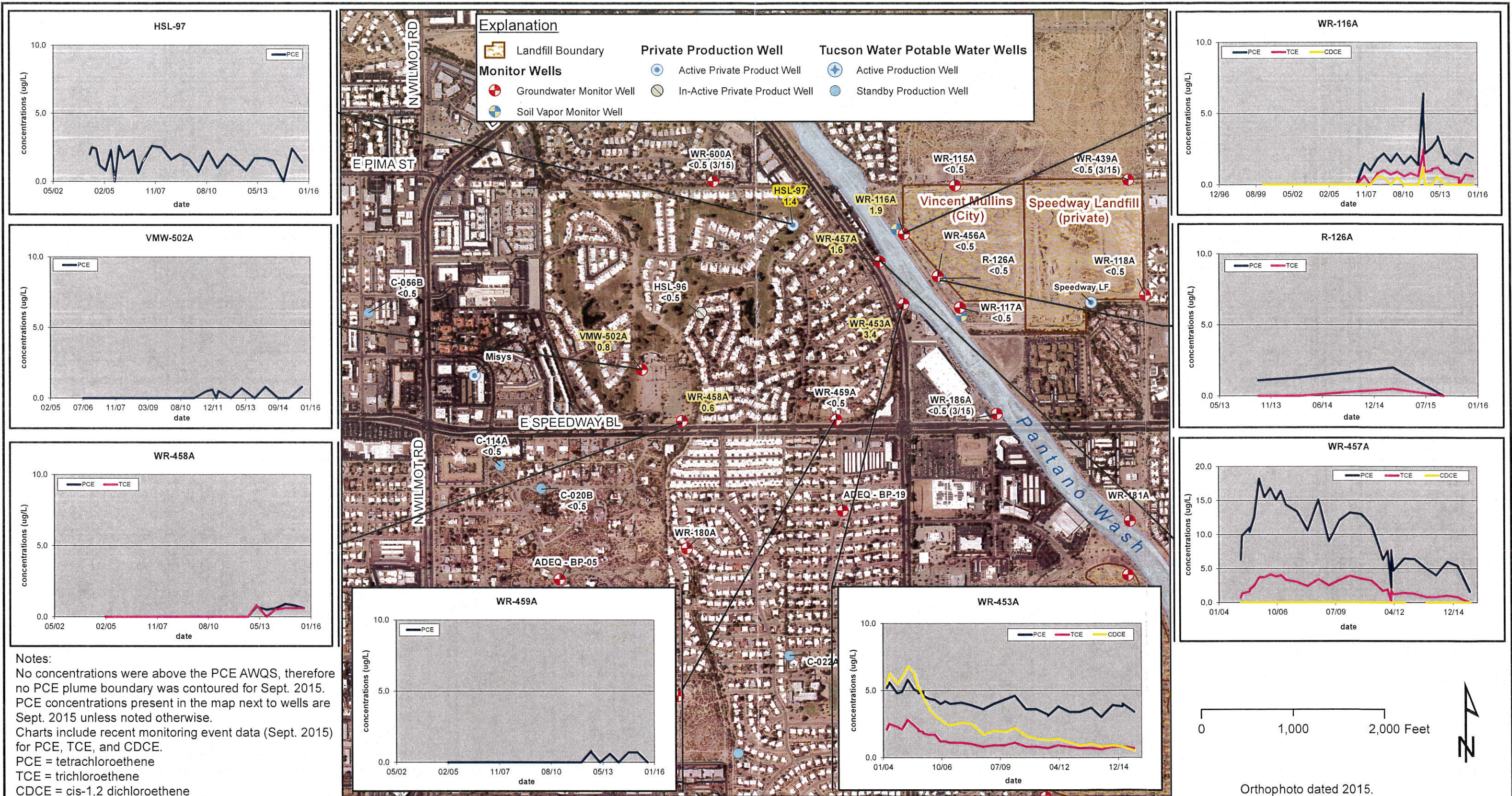


**Figure 5**  
PCE Concentration in Groundwater Monitor Wells  
Vincent Mullins Landfill



Note: All remaining monitoring wells are non-detect. Multidepth hydrasleeve sampling was conducted in February 2012 at wells WR-116A and WR-457A.

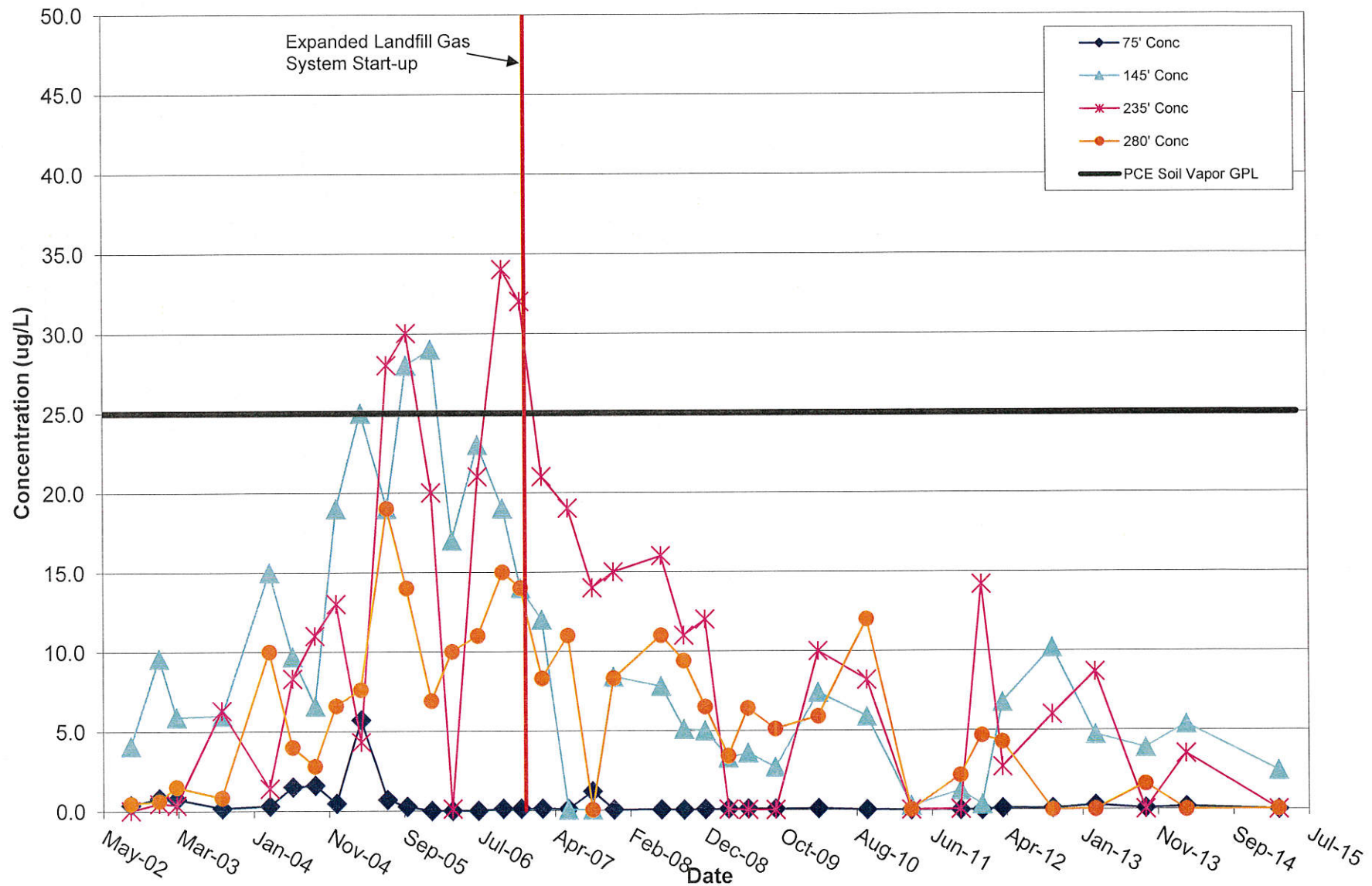




**FIGURE 6**  
Approximate Extent of Tetrachloroethene (PCE) Groundwater Exceedance Sept. 2015  
Vincent Mullins Landfill

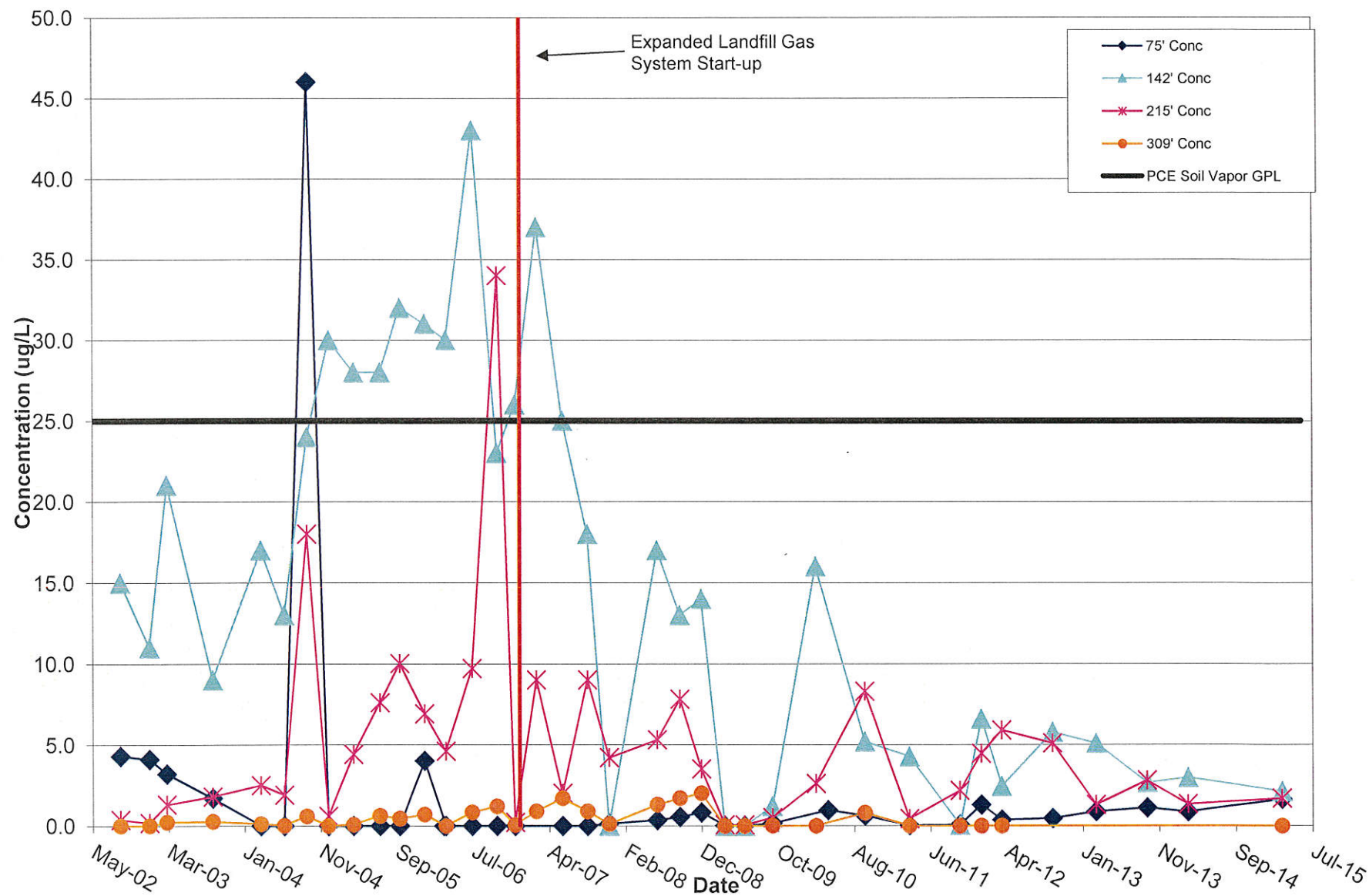


**Figure 7**  
PCE Concentration in Soil Vapor Well R-103A  
Vincent Mullins Landfill



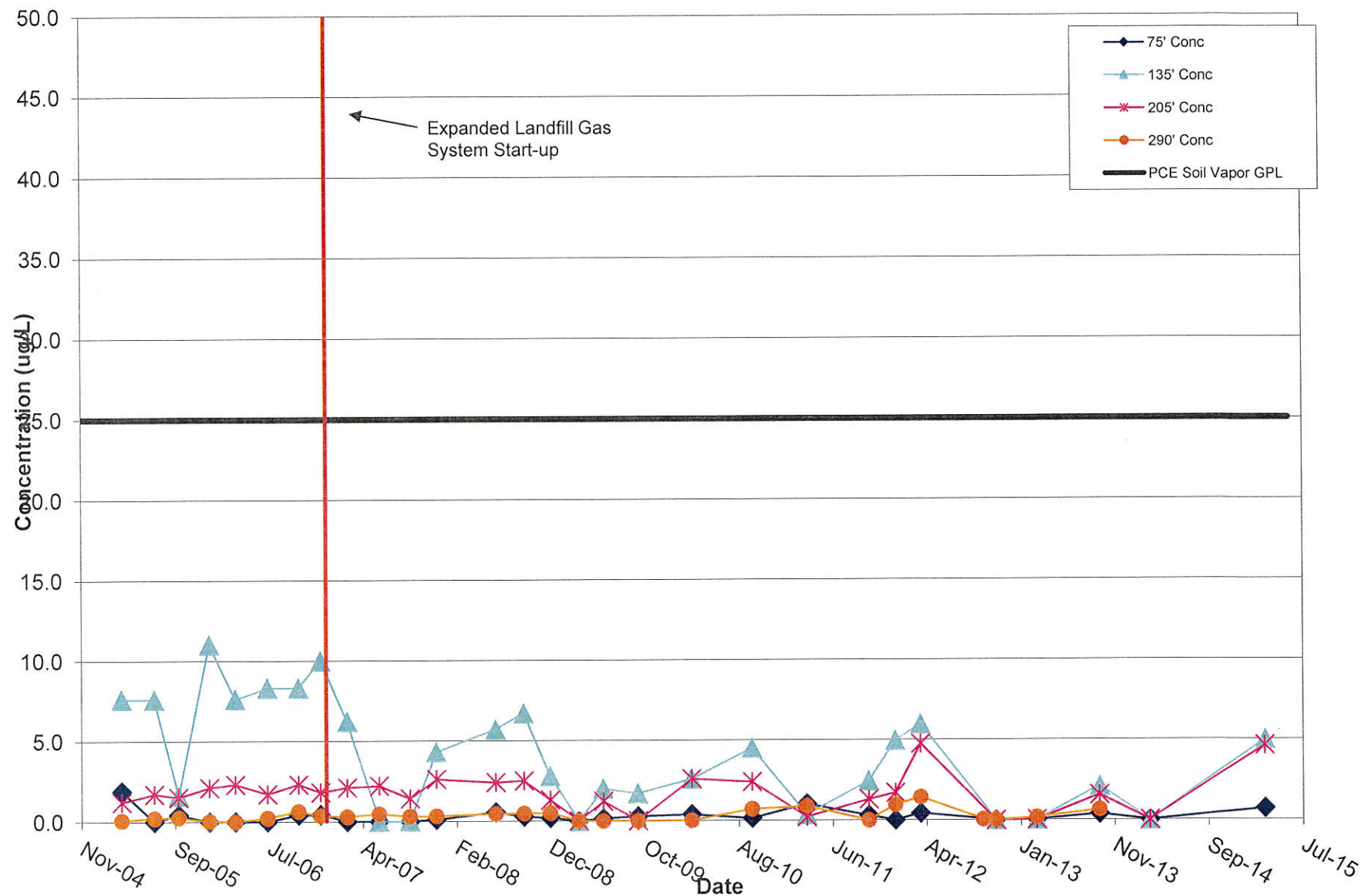
Note: PCE concentrations at depths 75', 145', 235', and 285' were plotted over time. In March 2014, groundwater detected in the 280 ft probe above top of screen 275.33 ft; therefore this probe is no longer monitored.

**Figure 8**  
PCE Concentration in Soil Vapor Well R-104A  
Vincent Mullins Landfill



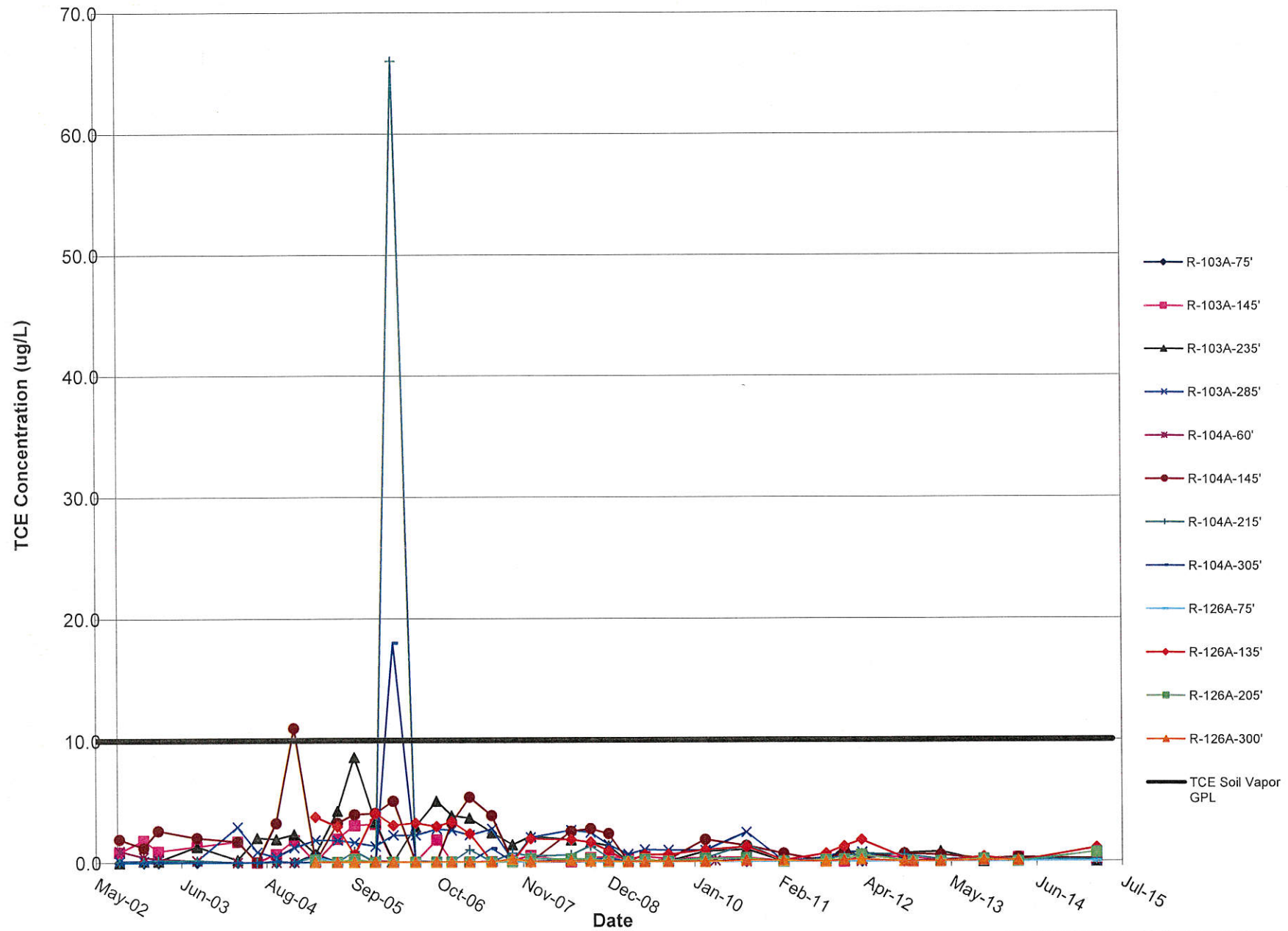
Note: PCE concentrations at depths 60', 145', 215', and 305' were plotted over time. On March 2012 groundwater was detected at 288.35 ft which is above the probes' top of screen of 304 ft; therefore, this probe is no longer monitored.

**Figure 9**  
PCE Concentration in Soil Vapor Well R-126A  
Vincent Mullins Landfill

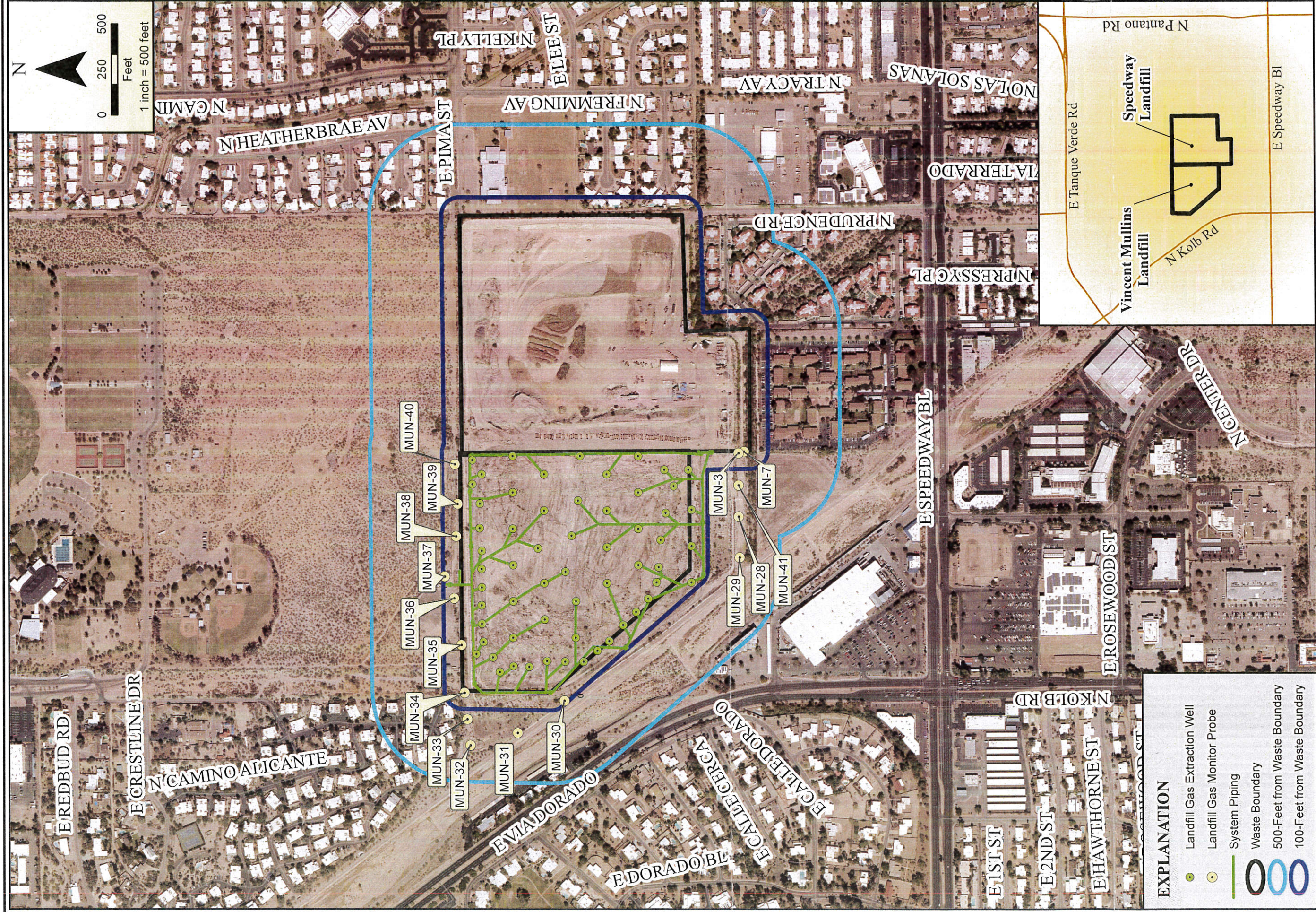


Note: PCE concentrations at depths 75', 135', 205', and 300' were plotted over time.

**Figure 10**  
TCE Concentrations by Depth for Soil Vapor Wells  
Vincent Mullins Landfill









## **TABLES**

**Table 1**  
**Well Information**  
**Vincent Mullins Landfill**

<i>Well Name</i>	<i>ADWR # (55-xxxxxx)</i>	<i>Well Type</i>	<i>Diameter (inches)</i>	<i>Material</i>	<i>Total Depth (ft bgs)</i>	<i>Well Depth (ft bgs)</i>	<i>Screen Interval (ft bgs)</i>	<i>Slot Size (inches)</i>	<i>Pump Info</i>	<i>Easting</i>	<i>Northing</i>	<i>X- Concrete Elevation</i>	<i>Sounding Tube Elevation</i>	<i>Date of Survey</i>
R-103A*	590006	Soil Vapor Well	0.5, 0.5, 3.0, 0.5	Sch 80 PVC	285	75, 145, 235, 280	70-75, 140- 145, 180- 235, 275- 280	0.02	Not Equipped	1032506	453264	NA	NA	estimated
R-104A*	590004	Soil Vapor Well	0.5, 0.5, 0.5, 3	Sch 80 PVC	319	75, 142, 215, 309	70-75, 137- 142, 210- 215, 304- 309	0.02	Not Equipped	1033210	452326	NA	NA	estimated
R-126A*	205401	Soil Vapor Well	0.5, 0.5, 0.5, 3.0	Sch 80 PVC	310	75, 135, 205, 290	70-75, 130- 135, 200- 205, 285- 290	0.02	Not Equipped	1032983	452731	NA	NA	estimated
VMW-502A	212345	Monitor Well-GW	5	Sch 80 PVC	420.33	420.33	280-420	0.02	3 Hp, 3 Ph, 230 V, 25 gpm, intake ~381.8'	1029703.36	451737.74	2539.26	2540.11	9/1/06
WR-115A	514277	Monitor Well-GW	6	Steel	340	335	235-335	0.125	5 Hp, 3 Ph, 230 V, intake ~317.8'	1033168.64	453740.58	2533.29	NA	9/1/06
WR-116A	514278	Monitor Well-GW	6	Steel	350	340	240-340	0.125	3 Hp, 3 Ph, 230 V, intake ~337.5'	1032594.69	453215.43	2535.69	2536.67	9/20/06
WR-117A	514279	Monitor Well-GW	6	Steel	350	345	245-345	0.125	5 Hp, 3 Ph, 230 V, intake ~317'	1033202.99	452413.67	2536.40	2537.64	9/20/06
WR-118A	514280	Monitor Well-GW	6	Steel	366	360	260-360	0.125	5 Hp, 3 Ph, 230 V, intake ~339'	1035215.83	452545.41	2555.03	2555.99	9/20/06
WR-147A*	520953	Monitor Well-GW	6	Steel	350	350	250-350	0.125	5HP, intake ~337'	1032673.5	455778.1	2529.09	NA	2/1/98
WR-148A*	520954	Monitor Well-GW	6	Steel	340	340	240-340	0.125	5Hp, intake ~328'	1032686.9	454770.7	2538.78	NA	2/1/98
WR-181A	527406	Monitor Well-GW	6	Steel	445	438	287-438	2	Not Equipped	1035034.29	450093.41	NA	2548.82	11/19/01
WR-186A	527407	Monitor Well-GW	6	Steel	415	410	260-410	2	Not Equipped	1033592.95	451256.01	NA	2545.49	11/19/01
WR-439A	590008	Monitor Well-GW	5	Sch 80 PVC	410	395	280-400	0.02	3 Hp, 3 Ph, 230 V, 25 gpm, intake ~380'	1035034.60	453800.99	2560.27	2560.53	7/8/02



**Table 1**  
**Well Information**  
**Vincent Mullins Landfill**

<i>Well Name</i>	<i>ADWR # (55-xxxxxx)</i>	<i>Well Type</i>	<i>Diameter (inches)</i>	<i>Material</i>	<i>Total Depth (ft bgs)</i>	<i>Well Depth (ft bgs)</i>	<i>Screen Interval (ft bgs)</i>	<i>Slot Size (inches)</i>	<i>Pump Info</i>	<i>Easting</i>	<i>Northing</i>	<i>X- Concrete Elevation</i>	<i>Sounding Tube Elevation</i>	<i>Date of Survey</i>
WR-453A	201627	Monitor Well-GW	5	Sch 80 PVC	410	405	250-400	0.02	5 Hp, 3 Ph, 230 V, 25 gpm, intake ~362'	1032582.83	452455.66	2532.87	2533.93	8/31/06
WR-456A	205402	Monitor Well-GW	5	Sch 80 PVC	410	356	316-356	0.02	5 Hp, 3 Ph, 230 V, intake ~362'	1032960.40	452754.72	2541.08	2542.08	8/31/06
WR-457A	205403	Monitor Well-GW	5	Sch 80 PVC	410	401.7	248-396.6	0.02	5 Hp, 3 Ph, 230 V, 25 gpm, intake ~359.2'	1032323.79	452913.09	2528.95	2529.76	8/31/06
WR-458A	205404	Monitor Well-GW	5	Sch 80 PVC	430	425	252-420	0.02	5 Hp, 3 Ph, 230 V, 25 gpm, intake ~360'	1030144.03	451181.01	2541.58	2542.49	8/31/06
WR-459A	205405	Monitor Well-GW	5	Sch 80 PVC	410	406	254-400	0.02	5 Hp, 3 Ph, 230 V, 25 gpm, intake ~360'	1031837.11	451193.73	2535.86	2536.51	8/31/06
WR-600A	904442	Monitor Well-GW	5	Sch 80 PVC	408	401.35	251.35-401	0.02	3 Hp, 230 V, 25 gpm, intake ~380'	1030495.50	453785.81	2514.43	2513.33	9/1/06
HSL-96	612396	private-not used	12	Steel	299	299	127-299	mills knife	Not Equipped					
HSL-97	612397	private-irrigation	16	Steel	475	475			Equipped - no info					
Misys	602755	private-irrigation	8	Steel	358	358			Equipped - no info					

Notes: Northing & Easting is State Plane, Arizona Central, NAD 83, International Feet  
Elevation is in NAVD 88, feet above mean sea level  
ft bgs = feet below ground surface  
NA = not available  
\* Northing and Easting are estimated from orthophoto.

**Table 2**

**Summary of Groundwater Monitoring at the Vincent Mullins  
Landfill for 2015**

**(Embedded in Page 2 of the Report)**

**Table 3**  
**Groundwater Elevation Table - 2015**  
**Vincent Mullins Landfill**

Well ID	Date	Time	DTW (ft)	Correction Factor (ft)	Corrected DTW (ft)	Benchmark Elv. (ft. a.m.s.l.)	WTE (ft)	Sounder ID	Collected by
WR-115A	3/6/2015	958	277.16	-1.28	275.88	2533.29	2257.41	SOL1	GB/HJV
WR-116A	3/6/2015	931	281.21	-1.23	279.98	2535.69	2255.71	SOL1	GB/HJV
WR-117A	3/6/2015	912	281.24	-1.13	280.11	2536.40	2256.29	SOL1	GB/HJV
WR-118A	3/6/2015	906	296.58	-0.90	295.68	2555.03	2259.35	SOL1	GB/HJV
WR-147A	3/6/2015	1035	269.18	-0.58	268.60	2529.09	2260.49	SOL1	GB/HJV
WR-148A	3/6/2015	1010	282.83	-0.84	281.99	2538.78	2256.79	SOL1	GB/HJV
WR-181A	3/6/2015	857	289.75	0.00	289.75	2548.82	2259.07	SOL1	GB/HJV
WR-186A	3/6/2015	1058	288.78	0.00	288.78	2545.49	2256.71	SOL1	GB/HJV
WR-439A	3/6/2015	1026	301.38	-0.83	300.55	2560.27	2259.72	SOL1	GB/HJV
WR-453A	3/6/2015	1105	278.81	-1.04	277.77	2532.87	2255.10	SOL1	GB/HJV
WR-456A	3/6/2015	924	285.82	-1.13	284.69	2541.08	2256.39	SOL1	GB/HJV
WR-457A	3/6/2015	1114	275.38	-1.03	274.35	2528.95	2254.60	SOL1	GB/HJV
WR-458A	3/6/2015	821	293.84	-0.97	292.87	2541.58	2248.71	SOL1	GB/HJV
WR-459A	3/6/2015	847	283.65	-0.59	283.06	2535.86	2252.80	SOL1	GB/HJV
WR-600A	3/6/2015	1050	262.49	1.06	263.55	2514.43	2250.88	SOL1	GB/HJV
VMW-502A	3/6/2015	815	293.71	-0.68	293.03	2539.26	2246.23	SOL1	GB/HJV

Well ID	Date	Time	DTW (ft)	Correction Factor (ft)	Corrected DTW (ft)	Benchmark Elv. (ft. a.m.s.l.)	WTE (ft)	Sounder ID	Collected by
WR-115A	9/16/2015	808	276.20	-1.28	274.92	2533.29	2258.37	SOL2	KV/GB/JM
WR-116A	9/16/2015	758	280.72	-1.23	279.49	2535.69	2256.20	SOL2	KV/GB/JM
WR-117A	9/16/2015	737	280.55	-1.13	279.42	2536.40	2256.98	SOL2	KV/GB/JM
WR-118A	9/16/2015	725	295.61	-0.90	294.71	2555.03	2260.32	SOL2	KV/GB/JM
WR-147A	9/16/2015	824	268.68	-0.58	268.10	2529.09	2260.99	SOL2	KV/GB/JM
WR-148A	9/16/2015	835	281.49	-0.84	280.65	2538.78	2258.13	SOL2	KV/GB/JM
WR-181A	9/16/2015	813	288.31	0.00	288.31	2548.82	2260.51	SOL2	KV/GB/JM
WR-186A	9/16/2015	820	287.73	0.00	287.73	2545.49	2257.76	SOL2	KV/GB/JM
WR-439A	9/16/2015	813	280.68	-0.83	279.85	2560.27	2280.42	SOL2	KV/GB/JM
WR-453A	9/16/2015	845	278.09	-1.04	277.05	2532.87	2255.82	SOL3	KV/GB/JM
WR-456A	9/16/2015	751	284.81	-1.13	283.68	2541.08	2257.40	SOL2	KV/GB/JM
WR-457A	9/16/2015	831	274.15	-1.03	273.12	2528.95	2255.83	SOL3	KV/GB/JM
WR-458A	9/16/2015	734	292.95	-0.97	291.98	2541.58	2249.60	SOL3	KV/GB/JM
WR-459A	9/16/2015	804	282.73	-0.59	282.14	2535.86	2253.72	SOL3	KV/GB/JM
WR-600A	9/16/2015	856	262.37	1.06	263.43	2514.43	2251.00	SOL3	KV/GB/JM
VMW-502A	9/16/2015	725	292.89	-0.68	292.21	2539.26	2247.05	SOL3	KV/GB/JM

**Notes:**

ft = feet

ft a.m.s.l. = feet above mean sea level

DTW = depth to water, feet below measuring point.

WTE = water table elevation.

Correction factor is the measured difference between the measuring point and the benchmark elevation.

Benchmark Elevation is normally a chiselled x on the concrete pad. In NAVD88, feet above mean sea level.

Monitoring Wells WR-181A and WR-186A benchmark elevations are casing elevations and require no correction.

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
AWQS (ug/L) →			-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
VMW-502A		6/22/2006*	<1.0	<1.5	<0.5	<2.0	<3.0	<0.5	<0.5	<2.0	<0.5
VMW-502A		07/05/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/12/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		12/11/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/05/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/06/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	U	03/06/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/17/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/09/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	U	03/09/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/15/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/04/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	U	03/04/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/15/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/07/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/21/11	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
VMW-502A	U	09/21/11	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
VMW-502A		12/14/11	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
VMW-502A	HS-306 ft	02/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	HS-334 ft	02/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	HS-362 ft	02/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	HS-390 ft	02/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A	HS-418 ft	02/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/20/12	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
VMW-502A		09/26/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/12/13	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
VMW-502A		09/25/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/12/14	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
VMW-502A		09/24/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		03/11/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
VMW-502A		09/23/15	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
R-126A		10/04/13	<0.5	<0.5	<0.5	2.7	<0.5	1.1	<0.5	0.6	<0.5
R-126A		03/13/14	<0.5	<0.5	<0.5	1.9	<0.5	1.3	<0.5	0.5	<0.5
R-126A		03/12/15	<0.5	<0.5	<0.5	2.0	<0.5	2.0	0.5	0.6	<0.5
R-126A		03/12/15	<0.5	<0.5	<0.5	2	<0.5	2	0.5	0.6	<0.5
R-126A		09/24/15	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		05/17/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/07/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/15/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		10/29/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/06/02	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
WR-115A		09/16/02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/11/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/08/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/16/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		07/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/11/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/16/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/10/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/15/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5



**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
AWQS (ug/L) →			-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
WR-115A	D	09/15/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/08/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/13/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/08/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/22/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/24/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/11/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/23/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/23/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/11/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/22/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		03/10/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-115A		09/22/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/15/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/07/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/15/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		10/29/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/06/02	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
WR-116A		09/16/02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/11/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/08/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/16/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		07/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		05/31/05	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/20/05	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A	D	09/20/05	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/07/06	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/11/06	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A	D	09/11/06	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		03/06/07	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5
WR-116A		09/10/07	<0.5	<0.5	<0.5	0.9	<0.5	1.5	0.6	<0.5	<0.5
WR-116A		03/11/08	<0.5	<0.5	<0.5	0.9	<0.5	1.0	<0.5	<0.5	<0.5
WR-116A	D	03/11/08	<0.5	<0.5	<0.5	1.0	<0.5	1.0	<0.5	<0.5	<0.5
WR-116A		09/16/08	0.6	<0.5	0.6	1.0	<0.5	1.8	0.8	<0.5	<0.5
WR-116A		03/12/09	0.7	<0.5	0.5	0.6	<0.5	2.2	1.0	<0.5	<0.5
WR-116A		09/16/09	<0.5	<0.5	<0.5	1.0	<0.5	1.6	0.7	<0.5	<0.5
WR-116A		03/09/10	0.7	<0.5	0.5	0.5	<0.5	2.2	0.9	<0.5	<0.5
WR-116A		09/15/10	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	0.6	<0.5	<0.5
WR-116A		03/09/11	0.5	<0.5	<0.5	<0.5	<0.5	2.0	0.8	<0.5	<0.5
WR-116A		09/26/11	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.6	<0.5	<0.5
WR-116A	HS-303 ft	02/22/12	2.1	<0.5	1.2	1.2	<0.5	6.4	2.5	<0.5	<0.5
WR-116A	HS-323 ft	02/14/12	2.1	<0.5	1.2	1.2	<0.5	5.8	2.3	<0.5	<0.5
WR-116A	HS-343 ft	02/14/12	1.5	<0.5	0.9	1.0	<0.5	4.8	2.0	<0.5	<0.5
WR-116A		03/20/12	0.6	<0.5	<0.5	0.7	<0.5	2.2	0.9	<0.5	<0.5
WR-116A		09/27/12	0.8	<0.5	<0.5	0.6	<0.5	2.6	1.0	<0.5	<0.5
WR-116A	D	09/27/12	0.8	<0.5	<0.5	0.6	<0.5	2.6	1.1	<0.5	<0.5
WR-116A		03/13/13	0.9	<0.5	0.6	0.7	<0.5	3.2	1.2	<0.5	<0.5
WR-116A		03/13/13	0.8	<0.5	0.5	0.7	<0.5	3.4	1.2	<0.5	<0.5
WR-116A		09/26/13	0.5	<0.5	<0.5	0.5	<0.5	1.9	0.7	<0.5	<0.5
WR-116A		09/26/13	0.5	<0.5	<0.5	0.5	<0.5	2.1	0.7	<0.5	<0.5
WR-116A		03/13/14	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	0.6	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
AWQS (ug/L) →			-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
WR-116A		03/13/14	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	0.6	<0.5	<0.5
WR-116A		09/25/14	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.5	<0.5	<0.5
WR-116A		09/25/14	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
WR-116A		03/12/15	0.5	<0.5	<0.5	<0.5	<0.5	2.2	0.7	<0.5	<0.5
WR-116A		09/28/15	<0.5	<0.5	<0.5	<0.5	<0.5	1.9	0.6	<0.5	<0.5
WR-117A		03/15/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/07/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/15/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		10/29/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/06/02	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5
WR-117A		09/16/02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/11/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/08/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/22/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		07/20/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A	D	05/31/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		05/31/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/12/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/07/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/11/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/06/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/10/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/10/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/16/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/10/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/15/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/08/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/13/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/08/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/22/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/24/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/11/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/23/13	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/11/14	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/22/14	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		03/10/15	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
WR-117A		09/22/15	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/15/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/07/00	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/15/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		10/29/01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/06/02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/11/02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/11/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/29/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/22/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/13/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/16/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/12/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	D	09/12/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>			<b>-</b>	<b>75.0</b>	<b>70.0</b>	<b>-</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>-</b>	<b>2.0</b>
WR-118A		03/07/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/25/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	U	09/25/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/06/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/10/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	U	09/10/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/10/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/16/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	U	09/16/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/11/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	U	03/11/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/15/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/08/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/14/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A	U	09/14/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/08/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/22/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/25/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/11/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/23/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/11/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/22/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/22/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		03/10/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/21/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-118A		09/21/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		04/08/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/15/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		06/27/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/05/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/04/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/09/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/10/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/14/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/13/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/14/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/13/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-186A		03/11/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		06/20/02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/11/02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/11/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/08/03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/16/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/13/04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/15/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/13/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A	U	09/13/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/07/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A	U	03/07/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/11/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5



**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
AWQS (ug/L) →			-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
WR-439A		03/05/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/06/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/10/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/04/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/07/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/07/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		09/22/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/08/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/07/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/10/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-439A		03/09/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-453A		03/22/04	1.0	<0.5	5.5	2.0	1.4	5.2	2.1	1.3	<0.5
WR-453A		05/03/04	1.1	<0.5	6.2	2.5	1.8	5.6	2.5	1.4	<0.5
WR-453A		09/13/04	1.0	<0.5	5.5	2.3	1.6	4.8	2.3	1.3	<0.5
WR-453A		12/07/04	1.1	<0.5	6.0	2.8	1.8	4.9	2.1	1.2	<0.5
WR-453A		03/15/05	1.4	<0.5	6.8	3.0	2.7	5.8	2.8	1.6	<0.5
WR-453A		06/27/05	1.4	<0.5	6.3	4.3	2.5	5.1	2.4	1.7	<0.5
WR-453A		09/14/05	1.1	<0.5	5.1	3.9	2.0	4.9	2.1	1.5	<0.5
WR-453A	U	09/14/05	1.2	<0.5	5.2	4.0	2.0	4.8	2.0	1.5	<0.5
WR-453A		12/06/05	1.0	<0.5	4.5	4.0	1.7	4.9	1.9	1.8	<0.5
WR-453A	U	12/06/05	1.0	<0.5	4.4	3.3	1.6	4.6	1.8	1.4	<0.5
WR-453A		03/09/06	0.9	<0.5	3.7	3.0	1.1	4.4	1.7	1.4	<0.5
WR-453A	U	03/09/06	0.9	<0.5	3.6	3.1	1.1	4.4	1.7	1.5	<0.5
WR-453A		06/22/06	0.8	<0.5	3.1	3.3	0.7	4.3	1.7	1.4	<0.5
WR-453A		09/25/06	0.6	<0.5	2.8	3.6	0.6	4.0	1.2	1.4	<0.5
WR-453A		12/14/06	0.6	<0.5	2.5	2.7	<0.5	4.2	1.2	1.1	<0.5
WR-453A		03/08/07	0.5	<0.5	2.4	2.5	<0.5	4.0	1.1	1.1	<0.5
WR-453A		09/13/07	<0.5	<0.5	2.6	3.6	<0.5	4.1	1.1	1.5	<0.5
WR-453A		03/12/08	<0.5	<0.5	2.5	4.2	<0.5	3.9	1.0	1.5	<0.5
WR-453A		09/18/08	<0.5	<0.5	1.7	4.2	<0.5	3.6	0.8	1.2	<0.5
WR-453A		03/16/09	<0.5	<0.5	2.0	3.5	<0.5	4.0	0.9	1.2	<0.5
WR-453A		09/17/09	<0.5	<0.5	1.9	6.8	<0.5	4.3	0.9	1.6	<0.5
WR-453A		03/10/10	<0.5	<0.5	2.2	4.5	<0.5	4.6	1.1	1.5	<0.5
WR-453A		09/15/10	<0.5	<0.5	1.6	2.7	<0.5	3.6	0.8	1.1	<0.5
WR-453A		03/10/11	<0.5	<0.5	1.4	3.4	<0.5	3.6	0.8	1.0	<0.5
WR-453A		09/27/11	<0.5	<0.5	1.3	2.9	<0.5	3.2	0.7	0.9	<0.5
WR-453A		09/27/11	<0.5	<0.5	1.3	2.7	<0.5	3.1	0.7	0.9	<0.5
WR-453A		03/20/12	<0.5	<0.5	1.4	5.2	<0.5	3.8	0.9	1.1	<0.5
WR-453A		09/27/12	<0.5	<0.5	1.1	5.8	<0.5	3.4	0.8	1.3	<0.5
WR-453A		03/13/13	<0.5	<0.5	0.9	5.3	<0.5	3.4	0.7	1.2	<0.5
WR-453A		09/26/13	<0.5	<0.5	1.0	7.2	<0.5	3.7	0.7	1.6	<0.5
WR-453A		03/13/14	<0.5	<0.5	0.8	4.0	<0.5	3.0	0.6	0.9	<0.5
WR-453A		09/25/14	<0.5	<0.5	0.9	7.6	<0.5	3.9	0.8	1.3	<0.5
WR-453A		03/12/15	<0.5	<0.5	0.8	4.3	<0.5	3.8	0.8	1.1	<0.5
WR-453A	U	03/12/15	<0.5	<0.5	0.8	4.1	<0.5	4.0	0.8	1.1	<0.5
WR-453A		09/28/15	<0.5	<0.5	0.5	5.3	<0.5	3.4	0.7	1.3	<0.5
WR-456A		1/28/2005*	<1.0	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		02/17/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		06/28/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/13/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5



**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
AWQS (ug/L) →			-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
WR-456A		12/05/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	U	12/05/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/08/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	U	03/08/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		06/21/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/12/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		12/12/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/07/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A	U	03/07/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/12/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/10/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/17/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/11/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/16/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/08/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/14/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/08/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/26/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/13/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/25/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/07/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/07/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/24/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/10/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/10/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/23/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		03/09/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-456A		09/22/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-457A		01/27/05	<0.5	<1.5	0.1	<0.5	<0.5	6.3	0.7	<0.5	<0.5
WR-457A		02/17/05	<0.5	<0.5	1.3	1.2	0.6	9.8	1.3	1.0	<0.5
WR-457A		06/27/05	0.9	<0.5	2.8	3.0	0.8	11.0	1.6	1.6	<0.5
WR-457A	U	06/27/05	0.8	<0.5	2.7	2.6	0.9	10.4	1.9	1.3	<0.5
WR-457A		09/14/05	1.1	<0.5	3.9	2.2	0.9	12.6	2.5	1.0	<0.5
WR-457A		12/06/05	1.6	<0.5	6.0	3.2	1.1	18.2	3.7	1.4	<0.5
WR-457A		03/09/06	1.8	0.6	6.2	2.2	1.2	15.5	3.7	0.9	<0.5
WR-457A		06/22/06	1.9	0.5	5.9	2.6	1.0	16.8	4.1	1.1	<0.5
WR-457A		09/25/06	1.9	0.6	5.4	2.1	1.2	15.1	3.8	0.8	<0.5
WR-457A		12/14/06	2.0	0.6	5.2	2.1	1.0	16.4	4.0	0.9	<0.5
WR-457A		03/08/07	1.6	<0.5	4.3	2.0	0.6	14.4	3.3	0.9	<0.5
WR-457A		09/13/07	1.5	<0.5	4.4	3.2	<0.5	13.4	3.0	1.3	<0.5
WR-457A		03/12/08	1.2	<0.5	3.6	3.7	<0.5	10.6	2.4	1.6	<0.5
WR-457A		09/18/08	1.7	<0.5	4.9	5.3	<0.5	15.1	3.4	1.7	<0.5
WR-457A		03/16/09	1.3	0.5	4.0	1.5	<0.5	9.0	2.5	0.7	<0.5
WR-457A		09/17/09	1.9	0.5	5.1	4.2	<0.5	12.1	3.3	1.1	<0.5
WR-457A		03/10/10	2.4	0.6	5.2	2.9	<0.5	13.2	3.9	1.1	<0.5
WR-457A		09/15/10	2.1	0.6	4.5	2.2	<0.5	13.0	3.5	1.1	<0.5
WR-457A		03/10/11	1.7	0.6	3.6	2.2	<0.5	11.4	3.2	0.8	<0.5
WR-457A		09/27/11	1.1	<0.5	2.2	1.3	<0.5	6.3	1.7	0.6	<0.5
WR-457A		12/14/11	1.2	<0.5	2.2	4.4	<0.5	7.6	1.9	1.0	<0.5
WR-457A	HS-295 ft	02/14/12	<0.5	<0.5	<0.5	4.4	<0.5	2.2	<0.5	1.5	<0.5
WR-457A	HS-321 ft	02/14/12	1.0	<0.5	1.9	4.4	<0.5	7.4	1.7	1.4	<0.5
WR-457A	HS-347 ft	02/14/12	1.0	<0.5	1.9	4.5	<0.5	7.6	1.7	1.4	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>			<b>-</b>	<b>75.0</b>	<b>70.0</b>	<b>-</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>-</b>	<b>2.0</b>
WR-457A	HS-373 ft	02/14/12	1.1	<0.5	2.1	4.6	<0.5	7.7	1.8	1.4	<0.5
WR-457A	HS-399 ft	02/14/12	1.1	<0.5	2.0	4.6	<0.5	7.3	1.7	1.4	<0.5
WR-457A		03/20/12	0.8	<0.5	1.5	1.5	<0.5	4.7	1.2	0.5	<0.5
WR-457A		09/27/12	0.8	<0.5	1.7	4.7	<0.5	6.5	1.4	1.4	<0.5
WR-457A		03/13/13	0.7	<0.5	1.4	3.7	<0.5	6.4	1.3	1.2	<0.5
WR-457A		09/26/13	0.5	<0.5	1.0	4.8	<0.5	5.0	0.8	1.1	<0.5
WR-457A		03/13/14	<0.5	<0.5	0.9	2.9	<0.5	4.0	0.8	0.9	<0.5
WR-457A		09/25/14	0.6	<0.5	0.8	4.6	<0.5	6.0	1.0	1.2	<0.5
WR-457A		03/12/15	<0.5	<0.5	0.6	3.3	<0.5	5.4	0.8	1.2	<0.5
WR-457A		09/28/15	<0.5	<0.5	<0.5	0.9	<0.5	1.6	<0.5	<0.5	<0.5
WR-458A		1/25/2005*	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		02/16/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		06/28/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A	U	06/28/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/13/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		12/05/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/08/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		06/21/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A	U	06/21/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/13/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		12/12/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/07/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/12/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/10/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/17/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/11/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/16/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/09/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/14/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/09/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A	U	03/09/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/26/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/14/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		09/25/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-458A		03/12/13	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	0.8	<0.5	<0.5
WR-458A		09/24/13	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5
WR-458A		03/12/14	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.5	<0.5	<0.5
WR-458A		09/23/14	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.6	<0.5	<0.5
WR-458A		03/11/15	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	0.6	<0.5	<0.5
WR-458A		09/23/15	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.6	<0.5	<0.5
WR-459A		1/26/2005*	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		02/16/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		06/28/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/13/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		12/05/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/08/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		06/21/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/13/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		12/12/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/07/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/12/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
AWQS (ug/L) →			-	75.0	70.0	-	5.0	5.0	5.0	-	2.0
WR-459A		03/11/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/12/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/09/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/09/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/26/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		03/13/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/24/12	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
WR-459A	U	09/24/12	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
WR-459A		03/12/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/24/13	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
WR-459A		03/12/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-459A		09/23/14	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
WR-459A		03/11/15	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
WR-459A		09/23/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		4/7/2006*	<0.5	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		04/26/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	U	04/26/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		06/22/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		09/12/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		12/11/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	U	12/11/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/05/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	U	03/05/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		09/11/07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/06/08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/09/09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/04/10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/07/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		09/21/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/07/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	U	03/07/12	<0.5	<1.5	<0.5	<2	<3	<0.5	<0.5	<2	<0.5
WR-600A		03/07/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/10/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A		03/09/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
WR-600A	U	03/09/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/10/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/27/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		12/15/11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/08/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/26/12	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/12/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/25/13	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/12/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/24/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		03/11/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-96		09/29/15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-97		05/11/04	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5
HSL-97		06/22/04	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	<0.5	<0.5
HSL-97		09/13/04	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	<0.5
HSL-97		11/16/04	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5	<0.5



**Table 4**  
**Groundwater Monitor Wells - Selected VOCs (ug/L)**  
**Vincent Mullins Landfill**

Well Name	Notes	Date	1,1-DCA	1,4-DCB	Cis-1,2DCE	DCFA	MC	PCE	TCE	TCFA	VC
<b>AWQS (ug/L) →</b>			<b>-</b>	<b>75.0</b>	<b>70.0</b>	<b>-</b>	<b>5.0</b>	<b>5.0</b>	<b>5.0</b>	<b>-</b>	<b>2.0</b>
HSL-97		03/16/05	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
HSL-97		06/28/05	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5
HSL-97		09/12/05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-97		12/06/05	<0.5	<0.5	<0.5	<0.5	<0.5	2.6	<0.5	<0.5	<0.5
HSL-97		03/09/06	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5
HSL-97		06/21/06	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5
HSL-97		09/13/06	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5
HSL-97		12/14/06	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
HSL-97		03/08/07	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5
HSL-97		09/13/07	<0.5	<0.5	<0.5	<0.5	<0.5	2.6	<0.5	<0.5	<0.5
HSL-97		03/11/08	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<0.5	<0.5	<0.5
HSL-97		09/18/08	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5
HSL-97		03/12/09	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5
HSL-97		09/17/09	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5
HSL-97	U	03/09/10	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
HSL-97		03/09/10	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
HSL-97		09/15/10	<0.5	<0.5	<0.5	<0.5	<0.5	2.2	<0.5	<0.5	<0.5
HSL-97		03/10/11	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5
HSL-97		09/27/11	<0.5	<0.5	<0.5	<0.5	<0.5	2.0	<0.5	<0.5	<0.5
HSL-97		03/08/12	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
HSL-97		09/26/12	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
HSL-97		03/11/13	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5
HSL-97		09/25/13	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5
HSL-97		03/11/14	<0.5	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5
HSL-97		09/24/14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
HSL-97		03/10/15	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	<0.5
HSL-97		09/24/15	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5
MISYS		04/25/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MISYS	U	04/25/06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Duplicate Sample

HS-### ft - sample was collected by hydrasleeve at depth noted.

en during well development

and shaded exceed the AWQS

zona Aquifer Water Quality Standard

**1,1-DCA**

1,1-dichloroethane

**1,4 DCB**

1,4-dichlorobenzene (a.k.a. para-dichlorobenzene)

**PCE**

tetrachloroethene

**TCE**

trichloroethene

**Cis-1,2DCE**

cis-1,2-dichloroethene

**MC**

methylene chloride (a.k.a. dichloromethane)

**TCFA**

trichlorofluoromethane

**VC**

vinyl chloride

**DCFA**

dichlorodifluoromethane

**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
VMW-502A	03/05/07	0.095	46	40	1.6	0.79	158	0.1	28	12	266	<0.02	<0.002	<0.004	4.4	<0.02	<0.005	<0.0005
VMW-502A	03/06/08	0.1	50	41	1.6	1.2	164	0.1	27	13	290	<0.02	<0.002	<0.004	4.7	<0.02	<0.005	<0.0005
VMW-502A	03/06/08	0.1	50	41	1.5	1.2	163	<0.1	27	13	291	<0.02	<0.002	<0.004	4.7	<0.02	<0.005	<0.0005
VMW-502A	03/09/09	0.1	50	41	1.5	1.1	166	0.12	26	13	278	<0.02	<0.002	<0.004	4.8	<0.02	<0.005	<0.0005
VMW-502A	03/09/09	0.1	50	41	1.5	1.1	163	0.12	26	13	275	<0.02	<0.002	<0.004	4.8	<0.02	<0.005	<0.0005
VMW-502A	03/04/10	0.096	48	40	1.5	1.1	277	0.14	29	13	277	<0.02	<0.002	<0.0025	4.6	<0.02	<0.005	<0.0005
VMW-502A	03/04/10	0.097	48	40	1.5	1.1	225	0.13	29	13	225	<0.02	<0.002	<0.025	4.6	<0.02	<0.005	<0.0005
VMW-502A	03/07/11	0.1	52	42	1.5	1.2	169	0.15	29	12	283	<0.02	<0.002	<0.025	4.9	<0.02	<0.005	<0.0005
VMW-502A	03/20/12	0.1	51	41	1.5	1.1	175	0.12	29	12	289	<0.02	<0.001	<0.025	4.8	<0.02	<0.001	<0.0005
VMW-502A	03/12/13	0.12	58	44	1.6	1.3	187	0.13	29	13	306	<0.02	<0.001	<0.001	5.4	<0.02	<0.001	<0.0005
WR-115A	05/17/00	0.0860	39	37	1.4	1.1	116	0.22	54	14	261	<0.02	0.0077	<0.004	4.0	<0.02	<0.005	<0.0005
WR-115A	09/07/00	0.0760	37	35	<2.0	1.1	110	0.22	55	13	240	<0.01	0.0068	<0.0005	3.7	<0.01	<0.003	<0.0002
WR-115A	03/15/01	0.0690	37	36	<2.0	1.0	109	0.25	52	12	245	<0.01	0.0035	<0.0005	3.7	<0.01	<0.005	<0.0005
WR-115A	10/29/01	0.0930	30	40	1.3	0.89	93	0.28	56	11	243	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-115A	03/06/02	0.0920	34	36	1.3	0.97	102	0.25	54	10	178	<0.02	<0.002	<0.004	3.5	<0.02	<0.005	<0.0005
WR-115A	09/16/02	0.0860	35	35	1.2	0.98	101	0.22	58	9	244	<0.02	0.0029	<0.004	3.6	<0.02	<0.005	<0.0005
WR-115A	03/11/03	0.0750	34	33	1.3	0.93	101	0.22	53	7.9	235	<0.02	0.0022	<0.004	3.4	<0.02	<0.005	<0.0005
WR-115A	03/16/04	0.0680	31	33	1.1	0.72	97	0.23	45	6.2	225	<0.02	0.0038	<0.004	3.1	<0.02	<0.005	<0.0005
WR-115A	03/11/08	0.0610	32	34	1.2	1.1	86	0.22	45	9.1	230	<0.02	0.0029	<0.004	3.2	<0.02	<0.005	<0.0005
WR-115A	03/10/09	0.0670	34	35	1.2	1.2	93	0.24	48	9.2	244	<0.02	0.0026	<0.004	3.4	<0.02	<0.005	<0.0005
WR-115A	03/08/10	0.0720	36	37	1.3	1.4	100	0.27	61	11	258	<0.02	0.0074	<0.0025	3.7	<0.02	<0.005	<0.0005
WR-115A	03/08/11	0.0800	42	40	1.4	1.5	111	0.26	57	9.6	251	<0.02	0.0059	<0.0025	4.2	<0.02	<0.005	<0.0005
WR-115A	03/14/12	0.0670	31	39	1.3	0.91	93	0.4	60	9.5	243	<0.02	0.0018	<0.0025	3.2	<0.02	0.0013	<0.0005
WR-115A	03/11/13	0.0780	40	38	1.3	1.2	116	0.23	56	8.6	257	<0.02	0.0072	<0.001	4.0	<0.02	0.0013	<0.0005
WR-115A	03/11/14	0.0794	40.7	38.9	1.33	1.27	118	0.254	53.2	8.39	257	<0.02	0.0167	<0.001	4.1	<0.02	0.0015	<0.0005
WR-115A*	03/10/15	0.0842	43.7	41.7	1.4	1.32	138	0.215	53.4	9.62	265	<0.02	0.00222	<0.001	4.3	<0.02	<0.001	<0.0005
WR-116A	03/15/00	0.077	35	34	1.3	1.0	114	0.26	47	13	248	<0.02	0.003	<0.004	3.7	<0.02	<0.005	<0.0005
WR-116A	09/07/00	0.079	35	34	<2.0	1.1	116	0.31	49	13	233	<0.01	0.0029	<0.0005	3.7	<0.01	<0.003	<0.0005
WR-116A	03/15/01	0.07	36	35	<2.0	1.2	112	0.28	49	12	246	<0.01	0.0043	<0.0005	3.2	<0.01	<0.005	<0.0005
WR-116A	10/29/01	0.095	41	39	1.4	1.2	113	0.19	53	13	261	<0.02	0.0044	<0.004	4.2	<0.02	<0.005	<0.0005
WR-116A	03/06/02	0.085	39	36	1.3	1.3	118	0.23	50	13	263	<0.02	0.0021	<0.004	4.0	<0.02	<0.005	<0.0005
WR-116A	09/16/02	0.093	41	36	1.4	1.3	119	0.22	56	14	266	<0.02	0.0037	<0.004	4.2	<0.02	<0.005	<0.0005
WR-116A	03/11/03	0.084	40	35	1.4	1.2	122	0.22	52	14	265	<0.02	<0.002	<0.004	4.1	<0.02	<0.005	<0.0005
WR-116A	03/16/04	0.093	39	35	1.3	1.4	122	0.22	52	13	269	<0.02	0.0024	<0.004	4.1	<0.02	<0.005	<0.0005
WR-116A	05/31/05	0.094	42	37	1.4	1.2	122	0.2	52	14	260	<0.02	<0.002	<0.004	4.3	<0.02	<0.005	<0.0005
WR-116A	03/07/06	0.094	48	38	1.5	1.2	118	0.24	55	15	258	<0.02	0.0021	<0.004	4.8	<0.02	<0.005	<0.0005

**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-116A	03/06/07	0.1	45	40	1.5	1.2	126	0.22	54	15	265	<0.02	<0.002	<0.004	4.7	<0.02	<0.005	<0.0005
WR-116A	03/11/08	0.11	47	40	1.4	1.5	132	0.2	53	14	285	<0.02	<0.002	<0.004	4.9	<0.02	<0.005	<0.0005
WR-116A	03/11/08	0.12	48	42	1.5	1.5	124	0.2	53	14	268	<0.02	0.011	<0.004	5.1	<0.02	<0.005	<0.0005
WR-116A	03/12/09	0.12	51	42	1.4	1.7	144	0.26	50	13	316	<0.02	0.0028	<0.004	5.4	<0.02	<0.005	<0.0005
WR-116A	03/09/10	0.12	50	43	1.5	1.9	151	0.26	56	13	308	<0.02	<0.002	<0.0025	5.4	<0.02	<0.005	<0.0005
WR-116A	03/09/11	0.14	56	46	1.6	1.8	153	0.26	54	14	303	<0.02	0.0065	<0.0025	5.8	<0.02	<0.005	<0.0005
WR-116A	03/20/12	0.15	62	45	1.6	1.7	156	0.25	55	14	314	<0.02	0.01	<0.0025	5.8	<0.02	<0.001	<0.0005
WR-116A	03/13/13	0.13	58	46	1.6	2	162	0.25	53	13	320	<0.02	0.0019	<0.001	6.1	<0.02	0.0015	<0.0005
WR-116A	03/13/13	0.13	57	45	1.6	1.9	163	0.25	53	13	321	<0.02	0.002	<0.001	6.0	<0.02	0.0013	<0.0005
WR-116A	03/13/14	0.126	53.5	44.4	1.54	1.78	152	0.258	55.8	14.1	306	<0.02	0.0117	<0.001	5.7	<0.02	<0.001	<0.0005
WR-116A	03/13/14	0.118	52	42.8	1.49	1.78	152	0.252	55.7	14.3	303	<0.02	0.00328	<0.001	5.6	<0.02	0.0011	<0.0005
WR-116A*	03/12/15	0.125	55.5	44.9	1.57	2.04	171	0.256	55.6	13.5	312	<0.02	<0.001	<0.001	5.9	<0.02	<0.001	<0.0005
WR-117A	03/15/00	0.073	29	34	1.3	0.57	110	0.21	30	11	212	<0.02	0.0033	<0.004	3.1	<0.02	<0.005	<0.0005
WR-117A	09/07/00	0.059	27	32	<2.0	0.59	109	0.22	32	11	191	<0.01	0.0055	<0.0005	2.9	<0.01	<0.003	<0.0002
WR-117A	03/15/01	0.056	30	35	<2.0	0.67	110	0.23	31	11	210	<0.01	0.01	<0.0005	3.2	<0.01	<0.005	<0.0005
WR-117A	10/29/01	0.079	29	37	1.3	0.52	106	0.2	32	11	220	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-117A	03/06/02	0.067	28	33	1.2	0.68	106	0.21	32	10	217	<0.02	0.0033	<0.004	3.0	<0.02	<0.005	<0.0005
WR-117A	09/16/02	0.072	31	34	1.3	0.73	108	0.2	35	10	215	<0.02	0.0029	<0.004	3.3	<0.02	<0.005	<0.0005
WR-117A	03/11/03	0.063	29	34	1.4	0.77	109	0.19	33	11	212	<0.02	<0.002	<0.004	3.1	<0.02	<0.005	<0.0005
WR-117A	03/22/04	0.08	30	35	1.3	0.87	108	0.22	35	11	211	<0.02	0.005	<0.004	3.4	<0.02	<0.005	<0.0005
WR-117A	05/31/05	0.075	32	36	1.3	0.94	104	0.18	37	12	221	<0.02	<0.002	<0.004	3.5	<0.02	<0.005	<0.0005
WR-117A	03/07/06	0.079	32	35	1.3	1	121	0.21	40	12	228	<0.02	0.0044	<0.004	3.6	<0.02	<0.005	<0.0005
WR-117A	03/06/07	0.081	33	37	1.3	0.93	119	0.19	40	12	205	<0.02	0.0029	<0.004	3.7	<0.02	<0.005	<0.0005
WR-117A	03/10/08	0.08	33	38	1.4	0.88	101	0.18	40	12	222	<0.02	<0.002	<0.004	3.8	<0.02	<0.005	<0.0005
WR-117A	03/10/09	0.081	34	39	1.4	0.85	104	0.22	40	12	245	<0.02	<0.002	<0.004	3.8	<0.02	<0.005	<0.0005
WR-117A	03/08/10	0.08	34	38	1.3	0.87	108	0.25	44	13	243	<0.02	0.0061	<0.0025	3.8	<0.02	<0.005	<0.0005
WR-117A	03/08/11	0.088	36	39	1.4	0.88	107	0.24	42	13	232	<0.02	0.0075	<0.0025	3.9	<0.02	<0.005	<0.0005
WR-117A	03/14/12	0.11	38	39	1.4	0.77	114	0.21	45	13	248	<0.02	0.029	<0.0025	4.0	<0.02	0.001	<0.0005
WR-117A	03/11/13	0.079	38	38	1.4	0.82	116	0.18	41	12	248	<0.02	0.028	<0.001	4.2	<0.02	<0.001	<0.0005
WR-117A	03/11/14	0.0794	38.8	39.8	1.42	1.21	128	0.227	39.1	12.9	252	<0.02	0.00433	<0.001	4.5	<0.02	<0.001	<0.0005
WR-117A*	03/10/15	0.0907	40.5	40.9	1.45	1.92	138	0.202	38.1	14.3	250	<0.02	<0.001	<0.001	4.6	<0.02	<0.001	<0.0005
WR-118A	03/15/00	0.071	32	33	1.9	0.74	98	0.14	22	30	221	<0.02	0.0095	<0.004	3.2	<0.02	<0.005	<0.0005
WR-118A	09/07/00	0.047	32	34	<2.0	0.78	98	0.2	23	32	213	<0.01	0.0084	<0.0005	3.0	<0.01	<0.003	<0.0002
WR-118A	03/15/01	0.038	33	35	<2.0	0.92	95	0.14	22	34	221	<0.01	0.0034	<0.0005	3.0	<0.01	<0.005	<0.0005
WR-118A	10/29/01	0.056	38	41	1.7	0.73	103	0.14	24	42	259	<0.02	<0.002	<0.004	3.4	<0.02	<0.005	<0.0005
WR-118A	03/06/02	0.038	30	33	1.3	0.63	96	0.15	23	27	145	<0.02	<0.002	<0.004	2.6	<0.02	<0.005	<0.0005



**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-118A	09/11/02	0.038	30	32	1.4	0.52	98	0.13	26	22	209	<0.02	<0.002	<0.004	2.6	<0.02	<0.005	<0.0005
WR-118A	03/11/03	0.031	30	32	1.5	0.51	99	0.12	25	18	203	<0.02	0.0021	<0.004	2.5	<0.02	<0.005	<0.0005
WR-118A	03/22/04	0.035	29	31	1.3	0.53	101	0.14	26	16	191	<0.02	0.0081	<0.004	2.4	<0.02	<0.005	<0.0005
WR-118A	03/16/05	0.028	30	31	1.4	0.48	106	0.12	27	13	215	<0.02	0.0043	<0.004	2.4	<0.02	<0.005	<0.0005
WR-118A	03/07/06	0.031	30	32	1.4	0.38	97	0.14	29	14	188	<0.02	0.006	<0.004	2.6	<0.02	<0.005	<0.0005
WR-118A	03/06/07	0.028	32	34	1.4	0.39	115	0.13	28	14	196	<0.02	<0.002	<0.004	2.7	<0.02	<0.005	<0.0005
WR-118A	03/10/08	0.028	30	32	1.4	0.3	94	0.12	27	10	188	<0.02	0.018	<0.004	2.5	<0.02	<0.005	<0.0005
WR-118A	03/11/09	0.029	30	32	1.3	0.31	93	0.15	27	9.9	204	<0.02	0.015	<0.004	2.5	<0.02	<0.005	<0.0005
WR-118A	03/11/09	0.024	30	32	1.3	0.31	94	0.15	27	9.9	201	<0.02	0.0029	<0.004	2.5	<0.02	<0.005	<0.0005
WR-118A	03/08/10	0.03	29	32	1.3	<0.25	96	0.17	28	10	201	<0.02	0.026	<0.0025	2.3	<0.02	<0.005	<0.0005
WR-118A	03/08/11	0.031	32	33	1.3	0.29	100	0.18	27	9.7	189	<0.02	0.041	<0.0025	2.5	<0.02	<0.005	<0.0005
WR-118A	03/14/12	0.092	59	30	1.5	<0.25	104	<0.1	16	63	323	<0.02	0.0017	<0.0025	4.6	<0.02	<0.001	<0.0005
WR-118A	03/11/13	0.038	24	29	1.2	<0.25	81	0.24	27	11	171	<0.02	0.0083	<0.001	2.1	<0.02	<0.001	<0.0005
WR-118A	03/11/14	0.0336	23.4	31.9	1.28	<0.25	87.9	0.238	25.8	10.3	174	<0.02	0.00356	<0.001	2.0	<0.02	<0.001	<0.0005
WR-118A*	03/10/15	0.0336	25.7	33.3	1.36	<0.25	101	0.174	26.3	10.1	180	<0.02	<0.001	<0.001	2.1	<0.02	<0.001	<0.0005
WR-186A	04/08/04	0.081	19	43	1.5	0.87	134	<0.1	26	3.3	209	<0.02	0.0052	<0.004	3.4	<0.02	<0.005	NA
WR-186A	03/15/05	0.099	50	40	1.6	19	124	<0.1	30	12	337	<0.02	0.0067	<0.004	5.5	<0.02	<0.005	<0.0005
WR-186A	06/27/06	0.12	51	42	1.7	11	136	0.1	39	6.8	315	<0.02	0.0041	<0.004	5.6	<0.02	<0.005	<0.0005
WR-186A	03/05/07	0.11	50	42	1.7	11	134	<0.1	40	6.8	292	<0.02	0.004	<0.004	5.5	<0.02	<0.005	<0.0005
WR-186A	03/04/08	0.11	49	44	1.7	8.6	128	<0.1	41	7.1	309	<0.02	0.0034	<0.004	5.6	<0.02	<0.005	<0.0005
WR-186A	03/09/09	0.1	49	45	1.6	9.5	136	0.13	40	8.3	309	<0.02	<0.002	<0.004	5.7	<0.02	<0.005	<0.0005
WR-186A	03/10/10	0.11	51	43	1.6	9.6	149	0.12	46	9	332	<0.02	<0.002	<0.0025	5.8	<0.02	<0.005	<0.0005
WR-186A	03/14/11	0.13	60	49	1.9	14	139	0.15	44	15	357	<0.02	<0.002	<0.0025	7.1	<0.02	<0.005	<0.0005
WR-186A	03/13/12	0.13	57	47	1.9	11	154	0.14	45	13	341	<0.02	0.0022	<0.0025	6.9	<0.02	<0.001	<0.0005
WR-186A	03/14/13	0.13	58	44	1.7	4	177	0.14	44	7.5	322	<0.02	<0.001	<0.001	6.4	<0.02	0.0013	<0.0005
WR-439A	09/11/02	0.064	34	33	1.7	0.61	116	0.11	35	11	226	<0.02	0.0077	<0.004	3.2	<0.02	<0.005	<0.0005
WR-439A	03/11/03	0.055	34	32	1.6	0.59	115	0.11	34	11	231	<0.02	0.008	<0.004	3.0	<0.02	<0.005	<0.0005
WR-439A	03/16/04	0.12	37	35	3.2	0.57	116	0.12	33	12	238	<0.02	0.0085	<0.004	4.8	<0.02	<0.005	<0.0005
WR-439A	03/15/05	0.059	37	34	1.6	0.6	115	0.1	34	13	239	<0.02	0.0058	<0.004	3.3	<0.02	<0.005	<0.0005
WR-439A	03/07/06	0.064	34	34	1.6	0.64	101	0.13	35	14	222	<0.02	0.0096	<0.004	3.3	<0.02	<0.005	<0.0005
WR-439A	03/07/06	0.061	35	34	1.6	0.64	106	0.13	35	14	207	<0.02	0.012	<0.004	3.3	<0.02	<0.005	<0.0005
WR-439A	03/05/07	0.049	33	34	1.4	0.6	95	0.12	33	14	212	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-439A	03/06/08	0.054	34	35	1.4	0.71	99	0.1	33	15	223	<0.02	0.0024	<0.004	3.1	<0.02	<0.005	<0.0005
WR-439A	03/10/09	0.053	34	34	1.4	0.75	98	0.14	32	16	237	<0.02	0.0041	<0.004	3.1	<0.02	<0.005	<0.0005
WR-439A	03/04/10	0.049	32	33	1.3	0.87	96	0.14	34	16	269	<0.02	<0.002	<0.0025	3.0	<0.02	<0.005	<0.0005
WR-439A	03/07/11	0.051	34	35	1.4	0.96	98	0.17	33	16	207	<0.02	0.0025	<0.0025	3.0	<0.02	<0.005	<0.0005

Table 5  
Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)  
Vincent Mullins Landfill

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-439A	03/07/11	0.052	34	35	1.4	0.97	95	0.2	32	16	207	<0.02	<0.002	<0.0025	3.0	<0.02	<0.005	<0.0005
WR-439A	03/08/12	0.051	32	33	1.3	1	97	0.15	32	15	210	<0.02	0.0025	<0.0025	2.8	<0.02	<0.001	<0.0005
WR-439A	03/07/13	0.047	31	32	1.2	1.1	89	0.13	31	16	211	<0.02	0.0019	<0.001	2.8	<0.02	<0.001	<0.0005
WR-453A	03/22/04	0.28	118	67	2.6	3.6	435	0.13	27	4.5	525	<0.02	0.0021	<0.004	13.0	<0.02	<0.005	<0.0005
WR-453A	03/15/05	0.27	124	66	2.4	2.8	447	0.11	25	4.5	552	<0.02	0.0065	<0.004	13.0	<0.02	<0.005	<0.0005
WR-453A	03/09/06	0.24	102	60	2.1	NA	382	NA	NA	NA	514	<0.02	<0.002	<0.004	11.0	<0.02	<0.005	<0.0005
WR-453A	03/09/06	0.24	104	60	2.2	NA	369	NA	NA	NA	510	<0.02	<0.002	<0.004	11.0	<0.02	<0.005	<0.0005
WR-453A	03/08/07	0.24	102	63	2.2	2.5	330	0.12	36	12	471	<0.02	<0.002	<0.004	11.0	<0.02	<0.005	<0.0005
WR-453A	03/12/08	0.23	95	61	2.1	2.2	284	0.11	36	24	434	<0.02	<0.002	<0.004	10.0	<0.02	<0.005	<0.0005
WR-453A	03/16/09	0.23	93	59	2	1.7	254	0.19	42	37	476	<0.02	<0.002	<0.004	10.0	<0.02	<0.005	<0.0005
WR-453A	03/10/10	0.24	96	59	2.1	1.8	280	0.15	52	44	481	<0.02	<0.002	<0.0025	11.0	<0.02	<0.005	<0.0005
WR-453A	03/10/11	0.24	103	62	2.2	1.7	253	0.18	57	52	484	<0.02	0.0026	<0.0025	11.0	<0.02	<0.005	<0.0005
WR-453A	03/20/12	0.2	96	56	2	2.2	249	0.16	57	44	475	<0.02	<0.001	<0.0025	10.0	<0.02	<0.001	<0.0005
WR-453A	03/13/13	0.19	101	57	2.1	2.5	234	0.17	62	56	493	<0.02	<0.001	<0.001	11.0	<0.02	0.0011	<0.0005
WR-453A	03/13/14	0.183	105	57.1	2.13	2.36	251	0.173	63.3	57.9	497	<0.02	<0.001	<0.001	11.3	<0.02	<0.001	<0.0005
WR-453A	03/12/15	0.182	104	55.6	2.15	2.08	278	0.176	61.9	51.8	483	<0.02	<0.001	<0.001	11.5	<0.02	<0.001	<0.0005
WR-453A	03/12/15	0.178	103	55.2	2.21	2.11	270	0.171	61.8	52	483	<0.02	0.0079	<0.001	11.3	<0.02	0.0019	<0.0005
WR-456A	02/17/05	0.095	36	37	1.9	0.92	111	0.2	46	12	240	<0.02	0.0074	<0.004	4.0	<0.02	<0.005	<0.0005
WR-456A	03/08/06	0.089	37	38	1.4	1.1	108	0.22	54	14	242	<0.02	<0.002	<0.004	3.9	<0.02	<0.005	<0.0005
WR-456A	03/08/06	0.088	37	37	1.4	1.1	107	0.21	53	14	247	<0.02	0.003	<0.004	3.8	<0.02	<0.005	<0.0005
WR-456A	03/07/07	0.092	38	39	1.4	0.98	106	0.19	50	13	258	<0.02	<0.002	<0.004	4.0	<0.02	<0.005	<0.0005
WR-456A	03/07/07	0.092	38	39	1.4	0.98	104	0.19	50	13	234	<0.02	<0.002	<0.004	4.1	<0.02	<0.005	<0.0005
WR-456A	03/10/08	0.088	37	37	1.3	1	101	0.18	51	13	235	<0.02	<0.002	<0.004	3.9	<0.02	<0.005	<0.0005
WR-456A	03/11/09	0.085	37	36	1.3	1	99	0.21	52	12	258	<0.02	<0.002	<0.004	4.0	<0.02	<0.005	<0.0005
WR-456A	03/08/10	0.072	33	33	1.2	1	98	0.22	54	9.7	243	<0.02	<0.002	<0.0025	3.4	<0.02	<0.005	<0.0005
WR-456A	03/08/11	0.077	36	37	1.3	1	99	0.21	52	10	236	<0.02	0.0049	<0.0025	3.7	<0.02	<0.005	<0.0005
WR-456A	03/13/12	0.083	35	36	1.3	1.1	107	0.22	53	11	245	<0.02	<0.001	<0.0025	3.6	<0.02	<0.001	<0.0005
WR-456A	03/07/13	0.094	38	38	1.4	1.1	103	0.2	54	11	252	<0.02	0.0013	<0.001	4.0	<0.02	<0.001	<0.0005
WR-456A	03/07/13	0.096	38	39	1.4	1.1	102	0.2	54	11	250	<0.02	<0.001	<0.001	4.1	<0.02	0.001	<0.0005
WR-456A	03/10/14	0.0908	36.6	37.9	1.35	1.13	103	0.268	53.8	11.1	244	<0.02	0.001	<0.001	3.9	<0.02	0.0012	<0.0005
WR-456A	03/10/14	0.0876	35.3	36.2	1.3	1.14	103	0.265	54	11	247	<0.02	<0.001	<0.001	3.8	<0.02	0.0011	<0.0005
WR-456A	03/09/15	0.0966	37.3	38.5	1.39	1.06	117	0.196	57.9	13	248	<0.02	0.0037	<0.001	3.9	<0.02	0.001	<0.0005
WR-457A	02/17/05	0.2	91	56	2.3	1.7	330	0.14	27	5.3	412	<0.02	0.0067	<0.004	9.5	<0.02	<0.005	<0.0005
WR-457A	03/09/06	0.2	94	53	2	NA	334	NA	NA	NA	458	<0.02	0.0041	<0.004	9.9	<0.02	<0.005	<0.0005
WR-457A	03/08/07	0.21	97	58	2.1	2.4	314	0.13	32	6.4	424	<0.02	0.0027	<0.004	10.0	<0.02	<0.005	<0.0005



**Table 5**  
**Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)**  
**Vincent Mullins Landfill**

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-457A	03/12/08	0.21	91	56	2	2.1	301	0.12	27	5	410	<0.02	0.0048	<0.004	9.7	<0.02	<0.005	<0.0005
WR-457A	03/16/09	0.22	101	59	2.1	2.4	319	0.2	27	4.3	470	<0.02	0.0028	<0.004	11.0	<0.02	<0.005	<0.0005
WR-457A	03/10/10	0.19	83	52	1.9	2.5	283	0.21	38	7.3	416	<0.02	0.0028	<0.0025	8.9	<0.02	<0.005	<0.0005
WR-457A	03/10/11	0.21	89	55	2	2.6	279	0.25	34	6.4	401	<0.02	0.0066	<0.0025	9.4	<0.02	<0.005	<0.0005
WR-457A	03/20/12	0.18	74	48	1.8	2.4	245	0.2	39	7.5	373	<0.02	0.0015	<0.0025	7.8	<0.02	<0.001	<0.0005
WR-457A	03/13/13	0.18	80	48	1.8	3.1	242	0.2	31	11	379	<0.02	0.0026	<0.001	8.3	<0.02	<0.001	<0.0005
WR-457A	03/13/14	0.178	78.6	47.5	1.82	3.34	215	0.212	40.4	32.8	392	<0.02	0.002	<0.001	8.3	<0.02	<0.001	<0.0005
WR-457A	03/12/15	0.205	82.3	47.7	1.94	3.02	236	0.191	44.4	32.5	419	<0.02	0.0166	<0.001	9.1	<0.02	<0.001	<0.0005
WR-458A	02/16/05	0.56	31	28	1.2	0.29	115	0.13	28	8.8	196	<0.02	0.0024	<0.004	2.9	<0.02	<0.005	<0.0005
WR-458A	03/08/06	0.063	32	30	1.2	1.1	108	0.15	31	9.8	206	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-458A	03/07/07	0.066	33	32	1.3	0.44	102	0.14	28	9	225	<0.02	<0.002	<0.004	3.2	<0.02	<0.005	<0.0005
WR-458A	03/10/08	0.063	32	31	1.2	0.46	107	0.12	28	8.8	191	<0.02	<0.002	<0.004	3.1	<0.02	<0.005	<0.0005
WR-458A	03/11/09	0.063	32	30	1.2	0.5	105	0.17	27	8.8	216	<0.02	<0.002	<0.004	3.2	<0.02	<0.005	<0.0005
WR-458A	03/09/10	0.068	34	32	1.3	0.62	119	0.18	29	9.4	219	<0.02	<0.002	<0.0025	3.2	<0.02	<0.005	<0.0005
WR-458A	03/09/11	0.071	38	34	1.3	0.64	121	0.19	28	9.1	220	<0.02	<0.002	<0.0025	3.5	<0.02	<0.005	<0.0005
WR-458A	03/09/11	0.071	38	34	1.3	0.64	124	0.17	28	9.1	216	<0.02	<0.002	<0.0025	3.5	<0.02	<0.005	<0.0005
WR-458A	03/14/12	0.078	39	34	1.4	0.72	129	0.15	29	9.3	237	<0.02	0.001	<0.0025	3.6	<0.02	<0.001	<0.0005
WR-458A	03/12/13	0.084	42	34	1.4	0.75	134	0.17	29	9.5	238	<0.02	<0.001	<0.001	3.8	<0.02	<0.001	<0.0005
WR-459A	02/16/05	0.064	34	31	1.7	0.92	112	0.15	28	11	197	<0.02	<0.002	<0.004	2.9	<0.02	<0.005	<0.0005
WR-459A	03/08/06	0.072	34	32	1.3	1.6	109	0.16	31	13	214	<0.02	0.0035	<0.004	3.0	<0.02	<0.005	<0.0005
WR-459A	03/07/07	0.077	36	34	1.4	1.4	102	0.14	29	12	226	<0.02	<0.002	<0.004	3.2	<0.02	<0.005	<0.0005
WR-459A	03/11/08	0.07	34	31	1.2	1.4	106	0.13	29	11	220	<0.02	<0.002	<0.004	2.9	<0.02	<0.005	<0.0005
WR-459A	03/12/09	0.068	35	31	1.2	1.2	104	0.18	29	11	234	<0.02	<0.002	<0.004	3.0	<0.02	<0.005	<0.0005
WR-459A	03/09/10	0.068	34	32	1.3	1.2	110	0.18	32	12	223	<0.02	<0.002	<0.0025	3.2	<0.02	<0.005	<0.0005
WR-459A	03/09/11	0.072	38	33	1.3	1.4	118	0.2	30	11	222	<0.02	<0.002	<0.0025	3.1	<0.02	<0.005	<0.0005
WR-459A	03/13/12	0.079	38	33	1.3	1.2	120	0.18	30	10	223	<0.02	<0.001	<0.0025	3.2	<0.02	<0.001	<0.0005
WR-459A	03/12/13	0.08	39	33	1.3	1.2	117	0.18	30	10	228	<0.02	0.0013	<0.001	3.2	<0.02	<0.001	<0.0005
WR-600A	06/22/06	NA	NA	NA	NA	1.4	NA	0.18	68	16	NA	NA	NA	NA	NA	NA	NA	NA
WR-600A	03/05/07	0.067	50	41	1.6	1.4	120	0.18	67	14	278	<0.02	<0.002	<0.004	3.3	<0.02	<0.005	<0.0005
WR-600A	03/05/07	0.068	50	41	1.5	1.3	117	0.18	67	14	276	<0.02	<0.002	<0.004	3.3	<0.02	<0.005	<0.0005
WR-600A	03/06/08	0.065	48	40	1.5	1.4	115	0.16	64	12	279	<0.02	0.014	<0.004	3.2	<0.02	<0.005	<0.0005
WR-600A	03/09/09	0.061	47	39	1.5	1.4	122	0.2	58	11	275	<0.02	<0.002	<0.004	3.1	<0.02	<0.005	<0.0005
WR-600A	03/04/10	0.059	44	38	1.4	1.5	121	0.27	58	11	279	<0.02	<0.002	<0.0025	2.9	<0.02	<0.005	<0.0005
WR-600A	03/07/11	0.058	46	40	1.5	1.5	123	0.22	51	10	253	<0.02	<0.002	<0.0025	3.0	<0.02	<0.005	<0.0005
WR-600A	03/07/12	0.058	42	38	1.4	1.3	127	0.22	45	9.6	250	<0.02	<0.001	<0.0025	2.8	<0.02	0.0014	<0.0005

Table 5  
Groundwater Monitor Wells - Selected Inorganic Analytes (mg/L)  
Vincent Mullins Landfill

Well Name	Date	Ba	Ca	Na	K	NO <sub>3</sub>	Total Alkalinity	F	SO <sub>4</sub>	Cl	TDS	Cr	Pb	Cd	Mg	Ag	Se	Hg
AWQS (mg/L) →		2				10		4				0.1	0.05	0.005			0.05	0.002
WR-600A	03/07/12	0.0533	40.3	38	1.55	1.26	137	<0.5	44.8	9.5	268	<0.01	<0.01	<0.005	2.5	<0.02	<0.02	<0.0001
WR-600A	03/07/13	0.058	43	37	1.4	1.2	122	0.17	42	8.7	249	<0.02	<0.001	<0.001	2.9	<0.02	0.0014	<0.0005
HSL-96	03/10/11	0.089	54	56	2.5	9.2	124	0.37	60	29	343	<0.02	<.002	<.0025	6.0	<0.02	<.005	<.0005
HSL-96	03/08/12	0.14	70	52	2	<b>15</b>	157	0.26	52	28	400	<0.02	0.002	<.0025	7.6	<0.02	0.002	<.0005
HSL-96	03/12/13	0.13	68	48	1.8	<b>10</b>	150	0.25	47	29	383	<0.02	<0.001	<0.001	7.4	<0.02	0.0023	<.0005
HSL-97	05/11/04	0.072	44	39	1.4	1.8	148	0.16	39	13	263	<0.02	0.0034	<0.004	3.6	<0.02	<0.005	<0.0005
HSL-97	06/22/04	0.072	46	39	1.4	1.9	149	0.15	38	13	291	<0.02	0.0026	<0.004	3.7	<0.02	<0.005	<0.0005
HSL-97	03/16/05	0.057	38	35	1.3	1.4	125	0.14	42	13	255	<0.02	0.0071	<0.004	2.9	<0.02	<0.005	<0.0005
HSL-97	03/09/06	0.081	48	41	1.5	NA	135	NA	NA	NA	280	<0.02	0.0041	<0.004	4.1	<0.02	<0.005	<0.0005
HSL-97	06/21/06	NA	NA	NA	NA	2.2	NA	0.13	41	14	NA	NA	NA	NA	NA	NA	NA	NA
HSL-97	03/08/07	0.083	49	43	1.5	2.1	130	0.13	44	14	265	<0.02	0.002	<0.004	4.2	<0.02	<0.005	<0.0005
HSL-97	03/11/08	0.61	40	38	1.3	1.6	112	0.14	41	13	232	<0.02	<0.002	<0.004	3.1	<0.02	<0.005	<0.0005
HSL-97	03/09/10	0.07	35	31	1.3	0.88	110	0.21	36	11	219	<0.02	<0.002	<0.0025	2.9	<0.02	<0.005	<0.0005
HSL-97	03/09/10	0.051	34	34	1.3	0.84	109	0.2	35	11	225	<0.02	<0.002	<0.0025	2.3	<0.02	<0.005	<0.0005
HSL-97	03/10/11	0.077	42	40	1.5	1.3	112	0.19	39	11	239	<0.02	0.0063	<.0025	3.2	<0.02	<.005	<.0005
HSL-97	03/08/12	0.085	48	41	1.5	2.7	141	0.16	44	14	282	<0.02	0.001	<.0025	4.1	<0.02	<.001	<.0005
HSL-97	03/11/13	0.048	35	33	1.3	0.92	107	0.15	35	10	227	<0.02	<0.001	<.001	2.2	<0.02	<.001	<.0005
HSL-97	03/11/14	0.0488	34.8	33.9	1.3	0.826	109	0.192	33.9	9.94	216	<0.02	0.0047	<.001	2.2	<0.02	<.001	<.0005

\*Lead sample was field filter for wells WR-115A, WR-116A, WR-117A and WR-118A. Approved by ADEQ Solid Waste by letter dated 3/27/2014.

NA = Not analyzed

Values in **bold and shaded** exceed the AWQS

<b>Ba</b>	barium	<b>NO<sub>3</sub></b>	nitrate	<b>TDS</b>	total dissolved solids	<b>Mg</b>	magnesium
<b>Ca</b>	calcium	<b>F</b>	fluoride	<b>Cr</b>	chromium	<b>Ag</b>	silver
<b>Na</b>	sodium	<b>SO<sub>4</sub></b>	sulfate	<b>Pb</b>	lead	<b>Se</b>	selenium
<b>K</b>	potassium	<b>Cl</b>	chloride	<b>Cd</b>	cadmium	<b>Hg</b>	mercury

**Table 6**  
**R-103A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfills**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
9/10/2002	75	0.0	3.6	15.2
	145	0.0	3.6	16.6
	235	0.0	0.0	19.7
	280	0.0	0.4	18.3
1/2/2003	75	0.0	4.5	15.1
	145	0.0	6.1	15.4
	235	0.0	0.2	18.9
	280	0.0	0.0	19.6
3/12/2003	75	0.0	2.2	16.3
	145	0.0	2.9	16.6
	235	0.0	0.3	20.4
	280	0.1	0.4	19.6
9/9/2003	75	0.0	4.4	16.5
	145	0.0	6.5	15.1
	235	0.0	3.3	18.4
	280	0.0	1.5	19.8
3/17/2004	75	0.0	3.6	16.7
	145	0.0	6.8	15.0
	235	0.1	5.5	16.4
	280	0.1	1.9	19.3
6/17/2004	75	0.0	4.6	16.1
	145	0.1	8.0	14.4
	235	0.1	2.7	19.4
	280	0.0	5.5	16.7
9/14/2004	75	0.0	3.9	18.4
	145	0.0	5.9	17.0
	235	0.0	2.3	21.7
	280	0.0	7.0	17.9
12/8/2004	75	0.0	4.7	16.5
	145	0.0	8.7	14.6
	235	0.0	3.6	19.7
	280	0.0	6.8	16.9
3/17/2005	75	0.0	4.4	16.9
	145	0.0	8.1	15.0
	235	0.1	7.0	15.8
	280	0.0	3.6	20.0
6/29/2005	75	0.0	4.1	16.5
	145	0.0	8.0	14.5
	235	0.0	7.2	15.5
	280	0.0	3.7	19.3
9/15/2005	75	0.0	3.9	15.5
	145	0.0	8.4	14.1
	235	0.0	7.6	14.9
	280	0.0	3.8	18.9

**Table 6**  
**R-103A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfills**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
12/22/2005	75	0.0	4.1	17.0
	145	0.0	8.6	14.3
	235	0.0	5.5	16.9
	280	0.0	4.1	18.9
3/15/2006	75	0.0	3.9	17.1
	145	0.0	8.2	14.8
	235	0.0	0.0	21.5
	280	0.0	3.9	19.6
6/26/2006	75	0.0	3.4	17.2
	145	0.0	7.9	14.2
	235	0.1	7.4	15.3
	280	0.0	4.5	19.1
10/3/2006	75	0.0	3.4	17.7
	145	0.0	7.8	14.0
	235	0.0	7.4	14.9
	280	0.1	4.0	18.9
12/13/2006	75	0.0	3.1	18.5
	145	0.0	7.8	14.7
	235	0.0	7.6	15.4
	280	0.0	4.6	19.4
3/7/2007	75	0.0	3.2	17.7
	145	0.0	7.7	14.5
	235	0.0	7.4	15.4
	280	0.0	4.7	19.3
6/19/2007	75	0.0	2.9	15.7
	145	0.0	7.1	13.6
	235	0.0	6.7	14.8
	280	0.0	5.2	18.5
9/24/2007	75	0.0	0.0	20.6
	145	0.0	6.3	14.3
	235	0.0	6.7	14.7
	280	0.0	4.5	18.5
12/18/2007	75	0.0	2.4	17.4
	145	0.0	7.6	14.3
	235	0.0	6.6	15.7
	280	0.0	5.9	18.1
6/24/2008	75	0.0	2.2	15.6
	145	0.0	6.9	14.0
	235	0.0	6.6	14.8
	280	0.0	5.2	8.3
9/22/2008	75	0.0	2.3	16.2
	145	0.0	6.5	14.4
	235	0.0	6.8	14.9
	280	0.0	5.4	18.0
12/15/2008	75	0.0	1.9	17.1
	145	0.0	6.9	14.1
	235	0.0	8.1	13.2
	280	0.0	4.9	17.0

**Table 6**  
**R-103A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfills**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
3/17/2009	75	0.0	0.7	16.6
	145	0.0	7.0	15.6
	235	0.0	8.3	14.0
	280	0.0	6.0	16.9
6/3/2009	75	0.0	0.9	16.1
	145	0.0	9.1	14.7
	235	0.0	7.4	13.9
	280	0.0	5.5	14.7
9/21/2009	75	0.0	1.1	15.2
	145	0.0	10.4	11.0
	235	0.0	8.3	11.4
	280	0.0	7.1	13.7
3/11/2010	75	0.0	2.9	15.6
	145	0.0	6.8	13.9
	235	0.0	7.1	14.4
	280	0.0	1.3	19.7
9/20/2010	75	0.0	1.9	16.2
	145	0.0	5.5	14.2
	235	0.0	6.0	14.6
	280	0.0	5.5	18.4
3/15/2011	75	0.0	2.2	17.9
	145	0.0	1.0	20.3
	235	0.0	0.0	20.9
	280	0.0	0.0	20.7
9/28/2011	75	0.0	6.1	11.7
	145	0.0	4.9	16.0
	235	0.0	7.7	13.9
	280	0.0	3.7	17.8
12/22/2011	75	0.0	8.0	10.7
	145	0.0	7.7	15.3
	235	0.0	10.1	11.1
	280	0.0	1.3	18.6
3/14/2012	75	0.0	9.1	11.4
	145	0.0	6.8	16.7
	235	0.0	12.3	10.9
	280	0.0	2.1	17.1
9/28/2012	75	0.0	14.3	10.3
	145	0.0	9.3	14.3
	235	0.0	11.8	9.7
	280	0.0	4.3	15.8



**Table 6**  
**R-103A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfills**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
3/18/2013	75	0.0	2.7	14.9
	145	0.0	3.3	17.4
	235	0.0	4.6	16.3
	280*	0.0	0.0	20.6
10/4/2013	75	0.0	4.4	15.1
	145	0.0	4.7	16.6
	235	0.0	3.9	17.1
	280*	0.0	0.0	19.1
3/14/2014	75	0.0	3.5	13.9
	145	0.0	6.2	13.8
	235	0.0	3.8	16.6
	280*	no sample, water intrusion.		
3/16/2015	75	0.0	3.2	16.4
	145	0.0	0.1	20.0
	235	0.0	0.0	20.5
	280	0.0	0.0	20.1

\*Stabilized readings are the same as initial readings. May indicate blockage.

**Table 7**  
**R-104A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfill**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
9/10/2002	75	11.3	12.5	0.0
	142	0.0	12.4	8.4
	215	0.0	0.0	18.7
	309	0.0	0.0	19.7
1/2/2003	75	0.4	0.4	18.1
	142	0.0	15.0	6.5
	215	0.0	0.0	18.8
	309	0.0	0.0	19.7
3/12/2003	75	0.3	0.8	16.3
	142	0.0	11.0	7.6
	215	0.0	0.7	19.7
	309	0.1	3.6	13.8
9/9/2003	75	4.2	9.6	1.1
	142	0.0	17.0	5.9
	215	0.0	5.1	12.9
	309	0.0	0.9	19.6
3/17/2004	75	3.2	9.4	0.2
	142	0.1	13.0	9.1
	215	0.0	6.0	11.6
	309	0.1	0.6	19.5
6/17/2004	75	1.8	6.6	5.0
	142	0.1	17.0	4.9
	215	0.2	4.5	12.6
	309	0.1	0.0	21.0
9/14/2004	75	0.0	0.2	20.5
	142	0.0	17.0	5.0
	215	0.0	7.0	11.3
	309	0.0	1.3	20.5
12/8/2004	75	0.8	8.3	1.8
	142	0.0	17.5	5.0
	215	0.0	0.2	19.0
	309	0.1	0.2	20.4
3/17/2005	75	0.9	8.7	0.9
	142	0.0	16.8	4.9
	215	0.0	5.9	12.6
	309	0.0	0.3	21.1
6/29/2005	75	1.4	8.8	0.6
	142	0.0	17.4	5.3
	215	0.0	8.9	9.9
	309	0.0	1.4	18.4
9/15/2005	75	0.9	8.3	2.1
	142	0.0	16.8	5.0
	215	0.0	8.1	9.9
	309	0.0	0.8	20.1

**Table 7**  
**R-104A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfill**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
12/22/2005	75	1.1	9.1	0.2
	142	0.0	17.1	4.4
	215	0.0	7.9	9.5
	309	0.0	0.7	19.6
3/15/2006	75	0.3	7.1	4.8
	142	0.0	17.1	4.4
	215	0.0	8.0	10.0
	309	0.0	0.5	20.2
6/26/2006	75	0.5	9.0	0.3
	142	0.0	16.7	4.6
	215	0.1	8.9	8.6
	309	0.1	1.4	18.4
10/3/2006	75	0.0	6.9	4.7
	142	0.0	16.7	4.4
	215	0.0	10.0	7.7
	309	0.0	1.3	18.5
12/13/2006	75	0.0	6.1	6.8
	142	0.0	16.5	4.6
	215	0.0	10.5	7.6
	309	0.0	0.9	19.3
3/7/2007	75	0.0	7.2	3.1
	142	0.0	16.4	5.5
	215	0.0	10.4	7.9
	309	0.0	1.6	18.3
6/18/2007	75	0.0	4.1	11.0
	142	0.0	15.1	5.0
	215	0.0	10.1	7.6
	309	0.0	2.2	17.7
9/24/2007	75	0.0	2.6	17.2
	142	0.0	13.8	7.4
	215	0.0	9.7	8.2
	309	0.0	2.0	17.7
12/18/2007	75	0.0	1.4	19.6
	142	0.0	0.1	20.7
	215	0.0	1.2	19.8
	309	0.0	0.1	20.9
6/24/2008	75	0.0	3.1	14.2
	142	0.0	14.2	5.7
	215	0.0	6.2	12.4
	309	0.0	2.6	16.6



**Table 7**  
**R-104A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfill**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
9/22/2008	75	0.0	4.4	11.1
	142	0.0	13.7	6.5
	215	0.0	11.9	6.9
	309	0.0	3.0	16.8
12/15/2008	75	0.0	6.3	4.2
	142	0.0	9.3	11.1
	215	0.0	2.1	18.7
	309	0.0	0.2	17.2
3/17/2009	75	0.0	7.6	9.7
	142	0.0	10.1	12.0
	215	0.0	3.3	17.6
	309	0.0	0.3	18.1
6/3/2009	75	0.0	6.8	10.1
	142	0.0	11.0	11.4
	215	0.0	4.1	15.7
	309	0.0	0.9	17.1
9/21/2009	75	0.0	7.3	11.7
	142	0.0	8.3	13.7
	215	0.0	5.1	14.7
	309	0.0	1.1	18.1
4/28/2010	75	0.0	4.1	12.3
	142	0.0	12.9	6.3
	215	0.0	2.5	17.3
	309	0.0	0.0	19.6
9/20/2010	75	0.0	4.4	10.0
	142	0.0	11.8	6.1
	215	0.0	11.0	8.2
	309	0.0	2.2	17.5
3/14/2011	75	0.0	2.3	16.1
	142	0.0	11.2	7.6
	215	0.0	1.1	19.8
	309	0.0	0.0	21.0
9/28/2011	75	0.0	3.1	15.9
	142	0.0	13.1	7.1
	215	0.0	2.1	18.6
	309	0.0	0.0	19.1
12/22/2011	75	0.0	5.9	13.9
	142	0.0	12.8	11.3
	215	0.0	3.8	17.1
	309	0.0	0.0	18.9

**Table 7**  
**R-104A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfill**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
3/12/2012	75	0.0	4.4	18.3
	142	0.0	7.6	11.1
	215	0.0	10.2	13.8
	309*	0.0	0.0	19.3
* Water detected at 288.35 ft. Entire screen covered by water.				
9/28/2012	75	0.0	2.8	13.9
	142	0.0	5.3	10.6
	215	0.0	2.7	14.0
	309	no sample, water intrusion.		
3/18/2013	75	0.0	1.2	18.8
	142	0.0	7.5	11.5
	215	0.0	4.3	16.9
	309	no sample, water intrusion.		
10/4/2013	75	0.0	3.8	17.0
	142	0.0	10.1	10.1
	215	0.0	6.1	15.8
	309	no sample, water intrusion.		
3/14/2014	75	0.0	2.7	17.3
	142	0.0	3.5	17.1
	215	0.0	3.6	17.5
	309	no sample, water intrusion.		
3/16/2015	75	0.0	3.0	10.5
	142	0.0	2.9	16.5
	215	0.0	1.8	18.2
	309	0.0	0.0	20.6



**Table 8**  
**R-126A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfill**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
3/17/2005	75	0.9	8.8	6.5
	135	0.4	6.8	14.8
	205	0.1	4.1	17.1
	290	0.1	0.6	21.3
6/29/2005	75	0.3	8.6	6.8
	135	0.2	7.4	13.2
	205	0.1	4.9	15.2
	290	0.0	1.3	19.0
9/15/2005	75	0.5	8.8	6.6
	135	0.1	7.2	13.1
	205	0.0	4.8	15.4
	290	0.0	1.2	19.4
12/22/2005	75	0.4	8.5	7.4
	135	0.2	7.8	12.3
	205	0.0	5.1	14.5
	290	0.0	0.1	20.3
3/15/2006	75	1.5	9.3	6.1
	135	0.1	7.6	12.8
	205	0.0	5.4	15.2
	290	0.0	1.1	19.9
6/26/2006	75	1.3	9.5	5.5
	135	0.2	7.2	12.6
	205	0.1	5.1	14.8
	290	0.0	1.2	19.6
10/3/2006	75	0.0	10.4	9.0
	135	0.1	7.6	11.9
	205	0.0	5.6	14.3
	290	0.0	1.3	19.2
12/3/2006	75	0.0	8.5	9.5
	135	0.0	8.0	11.9
	205	0.0	5.9	14.6
	290	0.0	1.3	19.5
3/8/2007	75	0.0	8.3	19.6
	135	0.0	8.0	14.4
	205	0.0	6.0	11.7
	290	0.0	1.3	9.1
6/18/2007	75	0.0	1.5	19.0
	135	0.0	5.5	13.5
	205	0.0	7.0	11.1
	290	0.0	6.4	10.3

**Table 8**  
**R-126A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfill**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
9/24/2007	75	0.0	5.3	12.2
	135	0.0	0.0	20.0
	205	0.0	5.2	13.8
	290	0.0	1.5	18.6
12/18/2007	75	0.0	6.9	12.4
	135	0.0	7.9	12.1
	205	0.0	7.2	13.8
	290	0.0	1.7	19.2
6/24/2008	75	0.0	6.3	10.9
	135	0.0	6.9	11.5
	205	0.0	5.8	13.7
	290	0.0	1.5	19.0
9/22/2008	75	0.0	6.5	12.0
	135	0.0	7.7	11.4
	205	0.0	6.4	13.5
	290	0.0	2.0	19.1
12/15/2008	75	0.0	5.8	11.3
	135	0.0	8.2	10.9
	205	0.0	7.2	12.6
	290	0.0	1.9	18.8
3/17/2009	75	0.0	4.7	10.7
	135	0.0	7.7	9.3
	205	0.0	7.1	13.7
	290	0.0	2.0	17.9
6/3/2009	75	0.0	5.1	11.1
	135	0.0	7.1	8.2
	205	0.0	8.0	12.7
	290	0.0	3.1	16.9
9/21/2009	75	0.0	7.3	13.1
	135	0.0	10.0	9.3
	205	0.0	10.1	11.3
	290	0.0	4.3	15.7
3/11/2010	75	0.0	9.6	9.0
	135	0.0	8.7	9.1
	205	0.0	6.8	12.7
	290	0.0	0.0	20.0
9/20/2010	75	0.0	5.4	13.9
	135	0.0	7.6	10.7
	205	0.0	6.1	13.3
	290	0.0	2.0	19.0



**Table 8**  
**R-126A - Concentrations of Methane, Carbon Dioxide, and Oxygen**  
**Vincent Mullins Landfill**

Date	Depth (ft)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)
3/14/2011	75	0.0	7.7	10.6
	135	0.0	1.4	19.6
	205	0.0	2.0	18.9
	290	0.0	2.3	19.1
9/28/2011	75	0.0	9.3	9.9
	135	0.0	2.3	18.1
	205	0.0	6.1	13.9
	290	0.0	1.8	17.9
12/22/2011	75	0.0	8.3	10.7
	135	0.0	1.9	17.1
	205	0.0	5.8	14.3
	290	0.0	2.1	16.3
3/12/2012	75	0.0	10.6	9.3
	135	0.0	2.7	17.3
	205	0.0	11.3	12.6
	290	0.0	3.1	16.8
9/28/2012	75	0.0	9.7	9.0
	135	0.0	3.0	16.0
	205	0.0	7.1	11.8
	290	0.0	2.7	17.3
11/7/2012	75	0.0	2.7	18.1
	135	0.0	1.0	19.2
	205	0.0	0.9	19.1
	290	0.0	0.1	19.1
3/18/2013	75	0.0	9.0	8.7
	135	0.0	7.3	10.8
	205	0.0	3.6	16.1
	290	0.0	0.2	20.2
10/4/2013	75	0.0	10.1	7.9
	135	0.0	6.8	11.2
	205	0.0	4.1	16.6
	290	0.0	0.4	19.1
3/14/2014	75	0.0	3.7	16.8
	135	0.0	2.5	18.1
	205	0.0	1.0	18.5
	290	0.0	1.2	18.4
3/16/2015	75	0.0	9.3	9.2
	135	0.0	9.5	8.4
	205	0.0	7.9	11.0
	290	no sample, water intrusion.		

**Table 9**  
**R-103A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
9/10/2002	75	0.4	ND	ND	ND	0.3	NA
1/2/2003	75	0.8	ND	ND	ND	0.7	NA
3/12/2003	75	0.8	ND	ND	0.0	1.2	NA
9/9/2003	75	0.2	ND	ND	ND	ND	4.2
3/17/2004	75	0.3	ND	ND	0.2	0.1	8.0
6/17/2004	75	1.5	ND	ND	ND	ND	7.0
9/14/2004	75	1.6	ND	ND	0.2	0.3	9.1
12/8/2004	75	0.5	ND	ND	ND	0.9	23.0
3/17/2005	75	5.7	0.7	0.7	ND	1.3	37.0
6/29/2005	75	0.7	ND	ND	ND	1.5	32.0
9/15/2005	75	0.3	ND	ND	ND	0.5	27.0
12/22/2005	75	ND	ND	ND	ND	ND	9.1
3/15/2006	75	ND	ND	ND	ND	1.0	25.0
6/26/2006	75	ND	ND	ND	ND	ND	8.0
10/3/2006	75	0.120	ND	ND	ND	ND	0.6
12/13/2006	75	0.120	0.0	ND	ND	ND	0.2
3/7/2007	75	0.120	ND	ND	ND	ND	0.2
6/19/2007	75	0.097	ND	ND	ND	0.2	7.0
9/24/2007	75	1.200	0.1	ND	ND	ND	0.2
12/18/2007	75	0.042	ND	ND	ND	ND	0.5
6/24/2008	75	0.047	ND	ND	ND	0.170	7.2
9/22/2008	75	0.027	ND	ND	ND	0.110	7.6
12/15/2008	75	0.057	ND	ND	0.053	0.560	24.0
3/17/2009	75	0.070	ND	ND	0.096	0.510	23.0
6/3/2009	75	0.096	ND	ND	0.190	0.480	21.0
9/21/2009	75	0.072	ND	ND	0.200	0.410	19.0
3/11/2010	75	0.094	ND	ND	ND	0.620	22.0
9/20/2010	75	0.017	ND	ND	ND	0.065	2.1
3/15/2011	75	ND	ND	ND	ND	0.320	14.9
9/28/2011	75	ND	ND	ND	0.118	0.214	9.9
12/22/2011	75	ND	ND	ND	ND	0.174	7.9
3/14/2012	75	0.095	ND	ND	ND	0.899	35.1
9/28/2012	75	0.090	ND	ND	ND	1.210	40.3
3/18/2013	75	0.280	0.054	ND	ND	2.450	63.0
10/4/2013	75	0.0868	ND	ND	ND	0.771	29.66
3/14/2014	75	0.174	ND	ND	ND	1.36	39.0
3/16/2015	75	ND	ND	ND	ND	0.0292	1.66



**Table 9**  
**R-103A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
9/10/2002	145	4.1	0.8	0.4	ND	1.3	NA
1/2/2003	145	9.6	1.8	0.8	ND	3.0	NA
3/12/2003	145	5.9	0.9	ND	0.2	2.8	NA
9/9/2003	145	6.0	1.3	0.5	0.0	3.3	29.0
3/17/2004	145	15.0	1.7	0.4	0.0	5.2	55.0
6/17/2004	145	9.7	ND	ND	ND	4.2	42.0
9/14/2004	145	6.6	0.7	ND	ND	4.4	49.0
12/8/2004	145	19.0	1.8	ND	ND	6.3	70.0
3/17/2005	145	25.0	ND	3.3	ND	6.3	86.0
6/29/2005	145	19.0	1.9	ND	ND	7.4	80.0
9/15/2005	145	28.0	3.0	0.6	ND	10.0	110.0
12/22/2005	145	29.0	3.1	ND	ND	8.6	110.0
3/15/2006	145	17.0	ND	ND	ND	8.0	80.0
6/26/2006	145	23.0	ND	ND	ND	8.0	80.0
10/3/2006	145	19.0	1.8	ND	ND	7.4	80.0
12/13/2006	145	14.0	ND	ND	ND	6.8	80.0
3/7/2007	145	12.0	ND	ND	ND	6.3	75.0
6/19/2007	145	0.1	0.0	ND	ND	0.010	0.11
9/24/2007	145	0.1	0.1	ND	ND	0.007	0.08
12/18/2007	145	8.4	0.5	ND	ND	6.5	63.0
6/24/2008	145	7.8	ND	ND	ND	4.9	63.0
9/22/2008	145	5.1	0.3	ND	ND	4.8	71.0
12/15/2008	145	5.0	0.4	ND	ND	4.3	75.0
3/17/2009	145	3.3	0.260	0.049	0.100	2.5	33.0
6/3/2009	145	3.6	0.390	0.072	0.190	2.5	32.0
9/21/2009	145	2.7	0.240	0.049	0.160	1.8	28.0
3/11/2010	145	7.4	0.310	ND	ND	4.8	83.0
9/20/2010	145	5.9	0.330	ND	ND	4.6	50.0
3/15/2011	145	0.271	ND	ND	ND	0.185	3.96
9/28/2011	145	1.22	ND	ND	ND	0.225	3.42
12/22/2011	145	0.339	ND	ND	ND	0.163	3.17
3/14/2012	145	6.780	0.387	ND	ND	6.740	109.00
9/28/2012	145	10.2	0.330	ND	ND	5.09	85.9
3/18/2013	145	4.7	0.184	ND	ND	3.84	49.6
10/4/2013	145	3.889	0.185	ND	ND	4.03	74.18
3/14/2014	145	5.36	0.311	ND	ND	5.13	79.90
3/16/2015	145	2.43	0.128	ND	ND	1.43	20.7

**Table 9**  
**R-103A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
9/10/2002	235	0.0	ND	ND	ND	ND	NA
1/2/2003	235	0.5	0.1	0.1	0.0	0.1	NA
3/12/2003	235	0.4	0.1	0.3	0.0	0.1	NA
9/9/2003	235	6.3	1.3	0.4	0.1	1.9	8.0
3/17/2004	235	1.4	0.2	ND	0.3	0.6	0.9
6/17/2004	235	8.3	2.0	0.5	ND	2.7	22.0
9/14/2004	235	11.0	1.9	0.7	ND	3.6	32.0
12/8/2004	235	13.0	2.3	0.7	ND	3.3	28.0
3/17/2005	235	4.3	0.7	0.7	ND	1.0	11.0
6/29/2005	235	28.0	4.2	1.4	ND	6.8	65.0
9/15/2005	235	30.0	8.6	1.6	ND	8.6	70.0
12/22/2005	235	20.0	3.3	1.1	ND	5.3	60.0
3/15/2006	235	0.1	0.0	0.0	ND	0.0	0.0
6/26/2006	235	21.0	2.9	1.0	ND	5.4	1.7
10/3/2006	235	34.0	5.0	1.6	ND	9.1	91.0
12/13/2006	235	32.0	3.8	1.0	ND	6.3	65.0
3/7/2007	235	21.0	3.6	1.0	ND	5.7	60.0
6/19/2007	235	19.0	2.4	ND	ND	6.3	60.0
9/24/2007	235	14.0	1.4	ND	ND	6.3	55.0
12/18/2007	235	15.0	2.1	0.4	ND	5.3	51.0
6/24/2008	235	16.0	1.8	0.3	ND	5.0	44.0
9/22/2008	235	11.0	1.6	0.3	ND	7.6	56.0
12/15/2008	235	12.0	1.3	0.2	ND	5.0	60.0
3/17/2009	235	0.049	0.006	ND	ND	0.008	0.073
6/3/2009	235	0.024	0.003	ND	ND	0.004	0.009
9/21/2009	235	0.019	0.003	ND	ND	ND	0.011
3/11/2010	235	10.0	0.83	0.12	ND	3.6	45
9/20/2010	235	8.2	1.0	0.15	ND	4.9	43
3/15/2011	235	0.019	ND	ND	ND	ND	0.0064
9/28/2011	235	0.048	0.006	ND	ND	ND	0.027
12/22/2011	235	14.2	1.13	0.107	ND	6.74	79.2
3/14/2012	235	2.7	0.193	ND	ND	1.91	17.8
9/28/2012	235	6.0	0.687	0.071	ND	3.45	44.8
3/18/2013	235	8.7	0.799	0.071	ND	5.34	55.4
10/4/2013	235	0.0315	ND	ND	ND	0.0067	0.025
3/14/2014	235	3.52	0.308	ND	ND	2.31	30.0
3/16/2015	235	ND	ND	ND	ND	ND	ND



**Table 9**  
**R-103A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
9/10/2002	280	0.5	0.1	0.0	0.1	0.1	NA
1/2/2003	280	0.6	0.1	ND	0.3	0.2	NA
3/12/2003	280	1.5	0.2	0.0	0.4	0.6	NA
9/9/2003	280	0.8	0.1	ND	0.2	0.2	0.6
3/17/2004	280	10.0	2.9	1.1	0.1	4.4	31.0
6/17/2004	280	4.0	0.8	0.2	ND	0.9	1.7
9/14/2004	280	2.8	0.4	0.1	0.3	1.2	2.3
12/8/2004	280	6.6	1.2	0.2	ND	1.4	2.4
3/17/2005	280	7.6	1.8	0.4	ND	2.0	4.0
6/29/2005	280	19.0	1.8	0.3	ND	2.0	3.3
9/15/2005	280	14.0	1.6	0.3	ND	1.9	ND
12/22/2005	280	6.9	1.3	0.2	ND	2.1	4.4
3/15/2006	280	10.0	2.2	0.4	ND	2.8	5.0
6/26/2006	280	11.0	2.2	0.5	ND	2.3	4.3
10/3/2006	280	15.0	2.7	0.5	ND	3.0	5.5
12/13/2006	280	14.0	2.6	0.5	ND	2.3	4.8
3/7/2007	280	8.3	2.2	0.5	ND	1.9	5.0
6/19/2007	280	11.0	2.7	0.52	ND	2.8	6.0
9/24/2007	280	0.0	0.1	0.00	ND	ND	0.0
12/18/2007	280	8.3	2.0	0.41	0.110	2.7	6.3
6/24/2008	280	11.0	2.6	0.68	ND	2.3	5.9
9/22/2008	280	9.4	2.4	0.90	0.0	3.7	6.0
12/15/2008	280	6.5	1.4	0.35	0.2	2.6	6.1
3/17/2009	280	3.4	0.6	0.15	0.2	1.1	2.5
6/3/2009	280	6.4	1.0	0.34	0.4	1.9	4.1
9/21/2009	280	5.1	0.9	0.28	0.5	1.8	4.1
3/11/2010	280	5.9	0.9	0.21	0.3	2.2	5.8
9/20/2010	280	12.0	2.4	0.83	ND	2.9	7.8
3/15/2011	280	0.0108	0.0032	ND	ND	ND	0.0069
9/28/2011	280	2.17	0.328	0.0673	0.166	0.045	0.0594
12/22/2011	280	4.68	0.806	0.166	0.461	0.129	0.361
3/14/2012	280	4.27	0.752	0.131	0.486	0.202	0.693
9/28/2012	280	ND	ND	ND	ND	ND	0.010
3/18/2013	280	0.01	ND	ND	ND	ND	ND
10/4/2013	280	1.62	0.128	ND	ND	0.906	12.5
3/14/2014	280	No sample, water detected at 275.33 ft, above top of screen 280 ft.					
3/16/2015	280	0.026	ND	ND	ND	ND	ND

NA = Not Analyzed

ND = Non-Detect

PCE = Tetrachloroethene

TCE= Trichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

VC = Vinyl Chloride

TCFM = Trichlorofluoromethane

DCFM = Dichlorodifluoromethane

All concentrations are reported in ug/L

All samples analyzed using Method TO-15

**Table 10**  
**R-104A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
9/10/2002	75	4.3	1.0	ND	0.8	12.0	NA
1/2/2003	75	4.1	0.4	1.3	0.3	15.0	NA
3/12/2003	75	3.2	0.3	1.0	ND	13.0	NA
9/9/2003	75	1.7	0.1	0.3	0.1	2.4	80.0
3/17/2004	75	ND	ND	ND	ND	8.0	160.0
6/17/2004	75	ND	ND	ND	ND	4.6	100.0
9/14/2004	75	46.0	ND	ND	ND	ND	33.0
12/8/2004	75	ND	ND	ND	ND	11.0	250.0
3/17/2005	75	ND	ND	ND	ND	13.0	320.0
6/29/2005	75	ND	ND	ND	ND	14.0	290.0
9/15/2005	75	ND	ND	ND	ND	ND	0.0
12/22/2005	75	4.0	0.1	0.1	ND	25.0	320.0
3/15/2006	75	ND	ND	ND	ND	15.0	280.0
6/26/2006	75	ND	ND	ND	ND	15.0	290.0
10/3/2006	75	ND	ND	ND	ND	12.0	220.0
12/13/2006	75	ND	ND	ND	ND	6.8	130.0
3/7/2006	75	ND	ND	ND	ND	17.0	340.0
6/18/2007	75	ND	ND	ND	ND	4.1	86.0
9/24/2007	75	ND	ND	ND	ND	2.2	38.0
12/18/2007	75	0.1	0.0	ND	ND	0.1	1.9
6/24/2008	75	0.4	ND	ND	ND	1.5	35.0
9/22/2008	75	0.5	ND	ND	ND	4.4	61.0
12/15/2008	75	0.8	0.067	ND	ND	1.0	13.0
3/17/2009	75	0.002	ND	ND	ND	0.009	0.1
6/3/2009	75	0.011	ND	ND	ND	0.009	0.1
9/21/2009	75	0.160	0.011	ND	ND	0.180	2.7
4/28/2010	75	0.960	0.066	ND	ND	2.7	33.0
9/20/2010	75	0.62	ND	ND	ND	4.9	56.0
3/14/2011	75	0.0292	ND	ND	ND	0.0141	0.208
9/28/2011	75	0.0658	ND	ND	ND	0.0444	0.495
12/22/2011	75	1.29	0.113	ND	ND	1.0	14.4
3/12/2012	75	0.366	ND	ND	ND	0.483	7.43
9/28/2012	75	0.452	0.055	ND	ND	1.97	27.9
3/18/2013	75	0.883	0.085	ND	ND	0.73	7.0
10/4/2013	75	1.110	0.0806	ND	ND	1.67	23.0
3/14/2014	75	0.866	0.0827	ND	ND	0.816	8.96
3/16/2015	75	1.64	0.135	ND	ND	2.02	28

**Table 10**  
**R-104A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
9/10/2002	142	15.0	1.9	0.7	ND	7.6	NA
1/2/2003	142	11.0	1.2	0.5	ND	4.6	NA
3/12/2003	142	21.0	2.6	0.9	ND	10.0	NA
9/9/2003	142	9.0	2.0	0.8	ND	3.3	41.0
3/17/2004	142	17.0	1.7	ND	ND	9.1	96.0
6/17/2004	142	13.0	ND	ND	ND	6.3	75.0
9/14/2004	142	24.0	3.2	ND	ND	10.0	130.0
12/8/2004	142	30.0	11.0	ND	ND	ND	150.0
3/17/2005	142	28.0	ND	ND	ND	11.0	160.0
6/29/2005	142	28.0	3.2	ND	ND	13.0	160.0
9/15/2005	142	32.0	3.9	1.4	ND	12.0	250.0
12/22/2005	142	31.0	4.0	ND	ND	13.0	160.0
3/15/2006	142	30.0	5.0	ND	ND	15.0	180.0
6/26/2006	142	43.0	ND	ND	ND	15.0	180.0
10/3/2006	142	23.0	ND	ND	ND	19.0	220.0
12/13/2006	142	26.0	3.2	1.3	ND	12.0	96.0
3/7/2007	142	37.0	5.3	2.7	ND	14.0	220.0
6/18/2007	142	25.0	3.8	ND	ND	12.0	150.0
9/24/2007	142	18.0	ND	ND	ND	12.0	140.0
12/18/2007	142	0.0	ND	ND	ND	ND	0.0
6/24/2008	142	17.0	2.5	1.6	ND	7.7	110.0
9/22/2008	142	13.0	2.7	2.5	0.1	8.3	130.0
12/15/2008	142	14.0	2.3	2.0	ND	8.9	140.0
3/17/2009	142	ND	ND	ND	ND	ND	0.0
6/3/2009	142	ND	ND	ND	ND	ND	ND
9/21/2009	142	1.2	0.2	0.044	ND	0.3	2.8
3/11/2010	142	16.0	1.8	1.6	ND	8.6	120.0
9/20/2010	142	5.2	1.3	1.3	ND	3.6	48.0
3/14/2011	142	4.27	0.644	0.673	ND	3.37	19.8
9/28/2011	142	0.0353	ND	ND	ND	0.0039	0.0356
12/22/2011	142	6.58	0.806	0.713	ND	4.66	89.1
3/12/2012	142	2.44	0.311	0.269	ND	2.59	54.5
9/28/2012	142	5.77	0.637	0.494	ND	4.34	63.6
3/18/2013	142	5.09	0.526	0.324	ND	3.41	38.3
10/4/2013	142	2.66	0.218	0.109	ND	2.38	38.85
3/14/2014	142	2.97	0.326	0.148	ND	2.76	28.5
3/16/2015	142	2.12	0.201	0.0832	ND	1.55	19



**Table 10**  
**R-104A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
9/10/2002	215	0.4	0.0	ND	ND	0.8	NA
1/2/2003	215	0.2	0.0	ND	ND	0.8	NA
3/12/2003	215	1.3	0.2	ND	ND	3.3	NA
9/9/2003	215	1.8	0.2	ND	ND	3.6	15.0
3/17/2004	215	2.5	ND	ND	ND	3.9	46.0
6/17/2004	215	1.9	ND	ND	ND	3.9	43.0
9/14/2004	215	18.0	ND	ND	ND	6.8	75.0
12/8/2004	215	0.6	0.0	ND	ND	0.4	2.0
3/17/2005	215	4.4	0.4	0.1	ND	6.8	86.0
6/29/2005	215	7.6	ND	ND	ND	14.0	130.0
9/15/2005	215	10.0	0.9	ND	ND	14.0	120.0
12/22/2005	215	6.9	ND	ND	ND	10.0	120.0
3/15/2006	215	4.6	66.0	ND	ND	9.1	96.0
6/26/2006	215	9.7	ND	ND	ND	13.0	130.0
10/3/2006	215	34.0	ND	ND	ND	23.0	210.0
12/13/2006	215	0.2	ND	ND	ND	0.0	0.1
3/7/2007	215	9.0	1.0	ND	ND	9.7	86.0
6/18/2007	215	2.0	ND	ND	ND	3.0	35.0
9/24/2007	215	9.0	0.7	ND	ND	12.0	160.0
12/18/2007	215	4.2	0.5	0.041	ND	3.6	44.0
6/24/2008	215	5.3	0.6	ND	ND	3.9	48.0
9/22/2008	215	7.8	1.3	0.2	ND	9.0	120.0
12/15/2008	215	3.5	0.3	0.045	ND	2.2	21.0
3/17/2009	215	0.1	0.004	ND	ND	0.0	0.3
6/3/2009	215	0.048	0.004	ND	ND	0.0	0.3
9/21/2009	215	0.5	0.062	0.012	0.003	0.2	2.9
3/11/2010	215	2.6	0.280	0.058	ND	1.7	19.0
9/20/2010	215	8.30	1.40	0.40	ND	8.30	74.00
3/14/2011	215	0.434	ND	ND	ND	0.264	4.11
9/28/2011	215	2.17	0.193	0.044	ND	0.899	10.4
12/22/2011	215	4.47	0.424	0.0990	ND	2.42	30.7
3/12/2012	215	5.90	0.644	0.1270	ND	4.16	45.0
9/28/2012	215	5.10	0.546	0.1900	ND	2.74	27.8
3/18/2013	215	1.31	0.149	0.0554	ND	1.00	13.4
10/4/2013	215	2.81	0.264	0.0721	ND	2.16	33.94
3/14/2014	215	1.35	0.157	0.0523	ND	1.16	13.5
3/16/2015	215	1.7	0.137	ND	ND	0.966	10.6

**Table 10**  
**R-104A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
9/10/2002	309	0.0	ND	ND	0.0	0.0	NA
1/2/2003	309	0.0	0.0	ND	ND	0.0	NA
3/12/2003	309	0.2	0.0	0.0	0.0	0.4	NA
9/9/2003	309	0.3	ND	ND	ND	0.4	3.9
3/17/2004	309	0.1	ND	ND	ND	0.4	4.7
6/17/2004	309	0.0	ND	ND	ND	ND	0.0
9/14/2004	309	0.6	0.1	ND	ND	1.3	8.6
12/8/2004	309	ND	ND	ND	ND	0.1	2.4
3/17/2005	309	0.1	ND	ND	ND	0.2	4.1
6/29/2005	309	0.6	0.1	ND	ND	1.1	16.0
9/15/2005	309	0.5	0.1	ND	ND	0.8	10.0
12/22/2005	309	0.7	ND	ND	ND	1.5	37.0
3/15/2006	309	ND	18.0	ND	ND	ND	2.7
6/26/2006	309	0.8	0.1	ND	ND	1.5	20.0
10/3/2006	309	1.2	ND	ND	ND	1.4	12.0
12/13/2006	309	0.1	ND	ND	ND	0.1	0.9
3/7/2007	309	0.9	ND	ND	ND	1.3	14.0
6/18/2007	309	1.7	1.1	ND	ND	2.5	20.0
9/24/2007	309	0.9	ND	ND	ND	1.7	13.0
12/18/2007	309	0.1	0.0	ND	ND	0.1	0.7
6/24/2008	309	1.3	0.2	ND	ND	1.5	13.0
9/22/2008	309	1.7	0.2	ND	ND	2.7	17.0
12/15/2008	309	2.0	0.3	0.014	ND	2.4	15.0
3/17/2009	309	ND	ND	ND	ND	ND	0.0
6/3/2009	309	ND	ND	ND	ND	ND	ND
9/21/2009	309	0.0025	ND	ND	ND	ND	0.0065
3/11/2010	309	ND	ND	ND	ND	ND	0.0034
9/20/2010	309	0.8	0.2	ND	ND	1.1	9.4000
3/14/2011	309	ND	ND	ND	ND	ND	ND
9/28/2011	309	ND	ND	ND	ND	ND	ND
12/22/2011	309	ND	ND	ND	ND	ND	ND
3/12/2012	309	No sample, groundwater detected at 288.35', above top of screen 304'					
3/16/2015	309	ND	ND	ND	ND	ND	0.0304

NA = Not Analyzed

ND = Non-Detect

PCE = Tetrachloroethene

TCE = Trichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

VC = Vinyl Chloride

TCFM = Trichlorofluoromethane

DCFM = Dichlorodifluoromethane

All concentrations are reported in ug/L

All samples analyzed using Method TO-15.

**Table 11**  
**R-126A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
3/17/2005	75	1.9	0.4	0.1	ND	0.9	39
6/29/2005	75	ND	ND	ND	ND	0.8	38
9/15/2005	75	0.4	0.1	0.1	ND	0.7	40
12/22/2005	75	ND	ND	ND	ND	ND	25
3/15/2006	75	ND	ND	ND	ND	ND	23
6/26/2006	75	ND	ND	ND	ND	ND	13
10/3/2006	75	0.4	ND	ND	ND	0.6	21
12/13/2006	75	0.4	ND	ND	ND	0.5	19
3/8/2007	75	ND	ND	ND	ND	0.4	16
6/18/2007	75	ND	ND	ND	ND	ND	18
9/24/2007	75	ND	ND	ND	ND	ND	13
12/18/2007	75	0.1	0.0	0.0	ND	0.3	8.5
6/24/2008	75	0.6	0.1	ND	ND	0.5	16
9/22/2008	75	0.3	ND	ND	ND	0.4	11
12/15/2008	75	0.19	0.027	0.014	ND	0.3	9.1
3/17/2009	75	ND	ND	ND	ND	ND	0.0
6/3/2009	75	0.15	0.019	0.006	0.025	0.07	1.7
9/21/2009	75	0.27	0.038	ND	0.051	0.41	7.9
3/11/2010	75	0.39	0.009	ND	ND	0.16	3.7
9/20/2010	75	0.14	0.010	ND	ND	0.25	5.9
3/14/2011	75	1.02	ND	ND	ND	0.955	12.4
9/28/2011	75	0.298	ND	ND	ND	0.461	7.92
12/22/2011	75	ND	ND	ND	ND	0.084	2.48
3/12/2012	75	0.427	ND	ND	ND	0.618	13.40
11/7/2012	75	ND	ND	ND	ND	ND	0.05
3/18/2013	75	0.028	ND	ND	ND	ND	ND
10/4/2013	75	0.369	ND	ND	ND	0.275	7.41
3/14/2014	75	ND	ND	ND	ND	ND	ND
3/16/2015	75	0.693	ND	ND	ND	0.496	9.93
3/17/2005	135	7.6	3.7	0.2	ND	3.1	50
6/29/2005	135	7.6	2.9	ND	ND	3.3	48
9/15/2005	135	1.6	0.6	0.0	ND	0.6	9.6
12/22/2005	135	11.0	4.0	ND	ND	3.6	60
3/15/2006	135	7.6	3.0	ND	ND	3.5	50
6/26/2006	135	8.3	3.2	ND	ND	3.4	48
10/3/2006	135	8.3	2.9	ND	ND	3.4	48
12/13/2006	135	10.0	3.3	ND	ND	3.4	46
3/8/2007	135	6.2	2.3	ND	ND	2.0	39
6/18/2007	135	Sample not good	NA	NA	NA	NA	NA
9/24/2007	135	0.0	ND	ND	ND	ND	0.0
12/18/2007	135	4.3	1.9	0.1	ND	2.0	30.0
6/24/2008	135	5.7	1.8	ND	ND	1.9	33.0
9/22/2008	135	6.7	1.6	0.1	0.0	2.9	36.0
12/15/2008	135	2.8	0.9	ND	ND	1.9	36.0
3/17/2009	135	ND	ND	ND	ND	ND	0.0
6/3/2009	135	2.0	0.560	0.023	0.032	0.051	0.3
9/21/2009	135	1.7	0.570	0.025	0.057	0.240	4.3



**Table 11**  
**R-126A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
3/11/2010	135	2.6	0.950	0.017	ND	1.7	30.0
9/20/2010	135	4.5	1.2	ND	ND	2.1	29.0
3/14/2011	135	0.353	0.102	ND	ND	0.101	3.42
9/28/2011	135	2.44	0.644	ND	ND	0.281	4.06
12/22/2011	135	4.95	1.24	ND	0.063	1.91	43.1
3/12/2012	135	5.97	1.77	ND	ND	3.71	64.4
11/7/2012	135	ND	ND	ND	ND	ND	ND
3/18/2013	135	0.02	ND	ND	ND	ND	ND
10/4/2013	135	2.098	0.387	ND	ND	1.462	38.8
3/14/2014	135	ND	ND	ND	ND	ND	ND
3/16/2015	135	4.98	1.11	ND	ND	2.81	52
3/17/2005	205	1.2	0.2	ND	ND	2.1	32.0
6/29/2005	205	1.7	ND	ND	ND	3.4	40.0
9/15/2005	205	1.5	0.2	ND	ND	2.6	44.0
12/22/2005	205	2.1	ND	ND	ND	3.5	45.0
3/15/2006	205	2.3	ND	ND	ND	4.6	50.0
6/26/2006	205	1.7	ND	ND	ND	2.7	32.0
10/3/2006	205	2.3	ND	ND	ND	4.0	45.0
12/13/2006	205	1.8	ND	ND	ND	2.9	36.0
3/8/2007	205	2.1	ND	ND	ND	2.5	40.0
6/18/2007	205	2.2	ND	ND	ND	3.2	42.0
9/24/2007	205	1.4	ND	ND	ND	2.8	34.0
12/18/2007	205	2.6	0.3	ND	ND	2.2	31.0
6/24/2008	205	2.4	0.2	ND	ND	2.2	29.0
9/22/2008	205	2.5	0.2	ND	ND	3.5	32.0
12/15/2008	205	1.3	ND	ND	ND	2.4	35.0
3/17/2009	205	ND	ND	ND	ND	ND	0.0025
6/3/2009	205	1.2	0.2	ND	0.1	0.1	0.3800
9/21/2009	205	ND	ND	ND	ND	ND	0.0031
3/11/2010	205	2.6	0.2	ND	ND	2.3	29
9/20/2010	205	2.4	0.3	ND	ND	2.4	25
3/14/2011	205	0.21	ND	ND	ND	0.275	4.26
9/28/2011	205	1.29	0.107	ND	0.12	0.787	8.91
12/22/2011	205	1.7	0.14	ND	0.095	1.69	34.7
3/12/2012	205	4.75	0.532	ND	ND	4.72	54.5
11/7/2012	205	ND	ND	ND	ND	ND	0.1
3/18/2013	205	0.02	ND	ND	ND	ND	0.027
10/4/2013	205	1.56	0.179	ND	ND	1.31	24.3
3/14/2014	205	0.0096	ND	ND	ND	ND	0.0199
3/16/2015	205	4.62	0.735	ND	ND	3.6	50.4
3/17/2005	290	0.1	ND	ND	ND	0.3	2.3
6/29/2005	290	0.2	ND	ND	ND	1.2	7.5
9/15/2005	290	0.3	ND	ND	ND	1.3	9.6
12/22/2005	290	0.0	ND	ND	ND	0.0	0.0
3/15/2006	290	ND	ND	ND	ND	0.4	1.8
6/26/2006	290	0.2	ND	ND	ND	1.1	9.1
6/26/2006	290	0.2	ND	ND	ND	1.3	8.6

**Table 11**  
**R-126A Vapor Probe Results - Selected VOCs**  
**Vincent Mullins Landfill**

Date	Depth (ft)	PCE	TCE	cis-1,2-DCE	VC	TCFM	DCFM
10/3/2006	290	0.6	ND	ND	ND	2.1	12.0
12/13/2006	290	0.4	ND	ND	ND	1.4	8.0
3/8/2007	290	0.3	ND	ND	ND	1.0	7.5
6/18/2007	290	0.5	ND	ND	ND	1.8	12.0
9/24/2007	290	0.3	0.2	ND	ND	1.7	9.6
12/18/2007	290	0.3	0.0	ND	ND	1.0	6.6
6/24/2008	290	0.5	0.1	ND	ND	1.3	11.0
9/22/2008	290	0.5	0.1	ND	ND	2.3	12.0
12/15/2008	290	0.5	0.1	ND	ND	1.7	11.0
3/17/2009	290	ND	ND	ND	ND	ND	0.0026
6/3/2009	290	ND	ND	ND	ND	0.0025	0.0240
9/21/2009	290	ND	ND	ND	ND	0.0023	0.0095
3/11/2010	290	0.0087	ND	ND	ND	0.0190	0.13
9/20/2010	290	0.71	0.094	ND	ND	2.2	12
3/14/2011	290	0.881	0.0913	ND	ND	3.26	18.8
9/28/2011	290	ND	ND	ND	ND	ND	0.01
12/22/2011	290	0.949	0.0967	ND	ND	2.53	21.3
3/12/2012	290	1.420	0.1660	ND	ND	4.44	30.7
9/28/2012	290	0.044	0.0068	ND	ND	ND	0.0136
11/7/2012	290	0.0066	ND	ND	ND	0.0061	0.0316
3/18/2013	290	0.169	0.018	ND	ND	0.197	2.494
10/4/2013	290	0.637	0.0859	ND	ND	1.22	13.6
3/14/2014	290	0.749	0.0924	ND	ND	1.26	9.95

NA = Not Analyzed

ND = Non-Detect

PCE = Tetrachloroethene

TCE= Trichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

VC = Vinyl Chloride

TCFM = Trichlorofluoromethane

DCFM = Dichlorodifluoromethane

All concentrations are reported in ug/L

All samples analyzed using Method TO-15.

**Table 12**

**Comparison of 2015 Maximum Contaminant Concentrations to  
Vincent Mullins Groundwater Protection Levels**

**(Embedded in Page 8 of the Report)**